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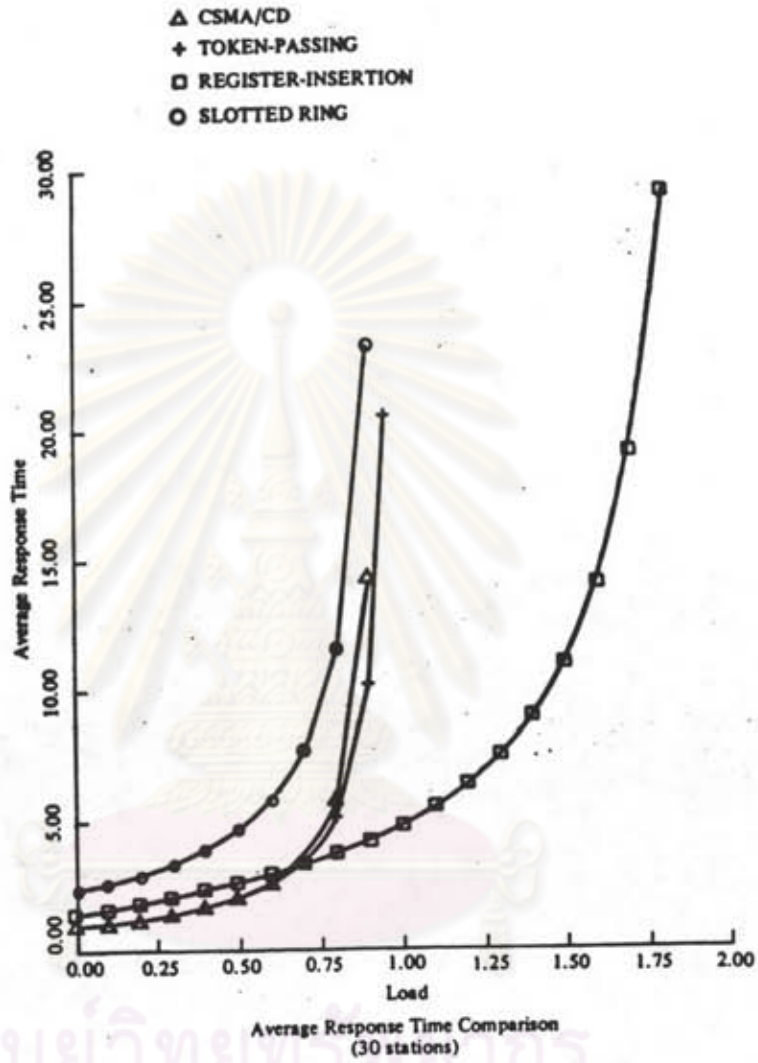
ภาคผนวก

ภาคผนวก ก

กราฟเปรียบเทียบประสิทธิภาพของโปรโตคอล CSMA/CD เมื่อเปรียบเทียบกับโปรโตคอลชนิดอื่น



Average Response Time Comparison
(30 stations)

ก.1 กราฟเปรียบเทียบประสิทธิภาพ ในด้าน Response Time(Delay Time) ระหว่างโปรโตคอลCSMA/CD กับโปรโตคอลอื่นๆ
จะเห็นได้ว่าที่โหลดต่ำ(Light Load) โปรโตคอลCSMA/CD จะมี Delay Time ต่ำที่สุด ส่วนที่โหลดมาก(Heavy Load) โปรโตคอลแบบโทเกนจะมี Delay Time ต่ำกว่า

ภาคผนวก ข

รายละเอียดการใช้ไอซี Tone Decoder

MITEL

ISO2-CMOS MT8870
Integrated DTMF Receiver

9161-002-031-NA ISSUE 2 January 1985

tures

- Complete DTMF receiver
- Low power consumption
- Internal gain setting amplifer
- Adjustable guard time
- Central Office Quality

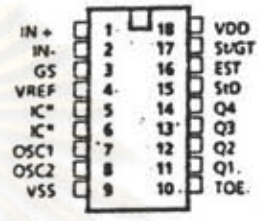
plications

- Paging systems
- Repeater systems/mobile radio
- Credit card systems
- Remote Control
- Personal Computers

cription

MT8870 is a complete DTMF receiver grating both the bandsplit filter and digital oder functions, fabricated in Mitel's double poly -CMOS technology. The filter section uses ched capacitor techniques for high and low p filters; the decoder uses digital counting techniques to detect and decode all 16 DTMF tone-pairs into a 4-bit code. External component count is minimized by on chip provision of a differential input amplifier, clock oscillator and latched 3-state bus interface.

Pin Connections



*connect to VSS

Ordering Information

MT8870E 18 PIN PLASTIC
MT8870C 18 PIN CERDIP

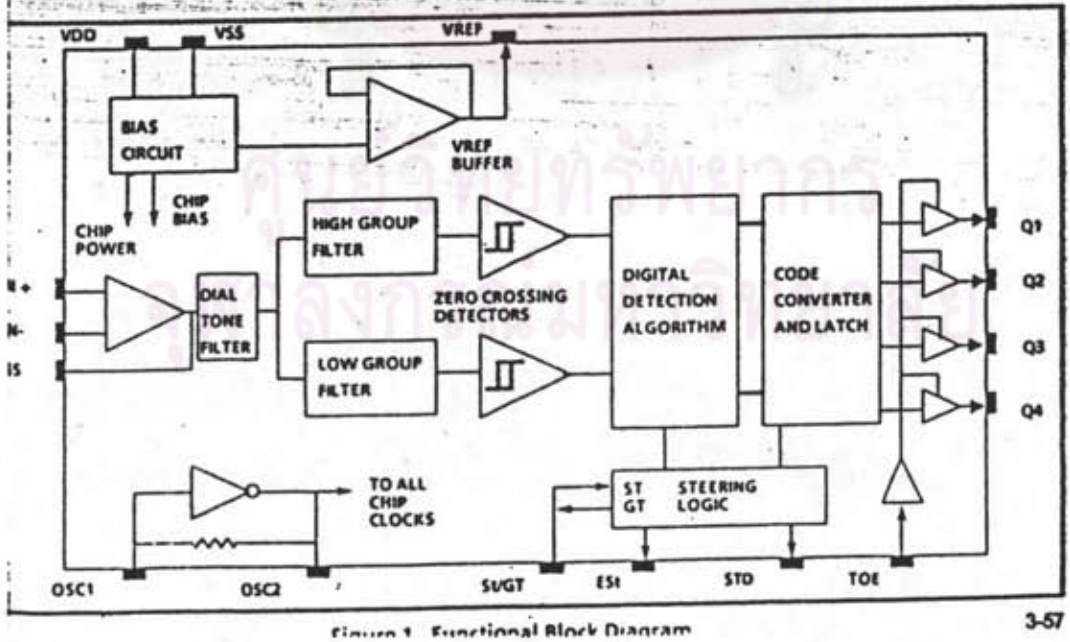


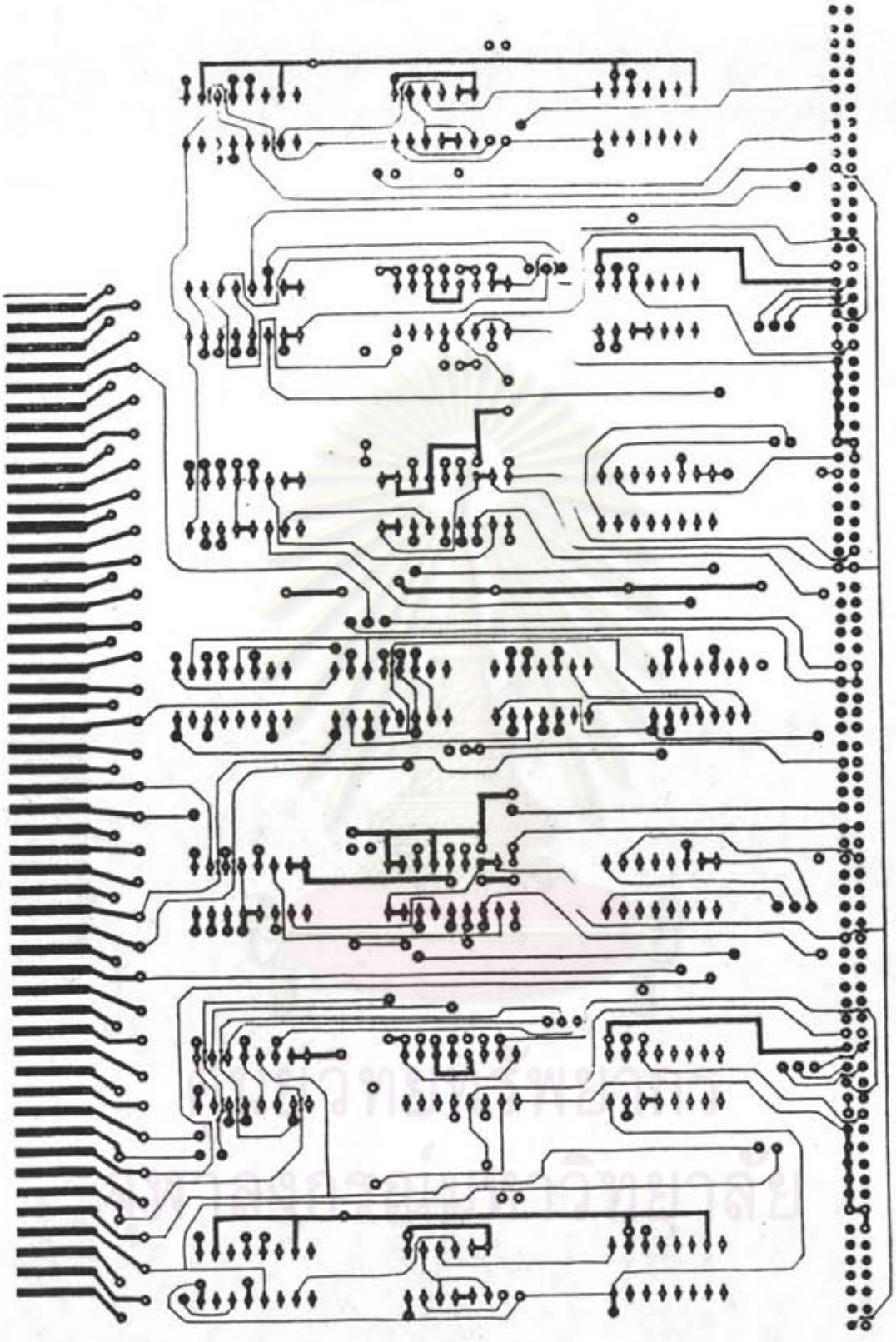
Figure 1 - Functional Block Diagram

ription

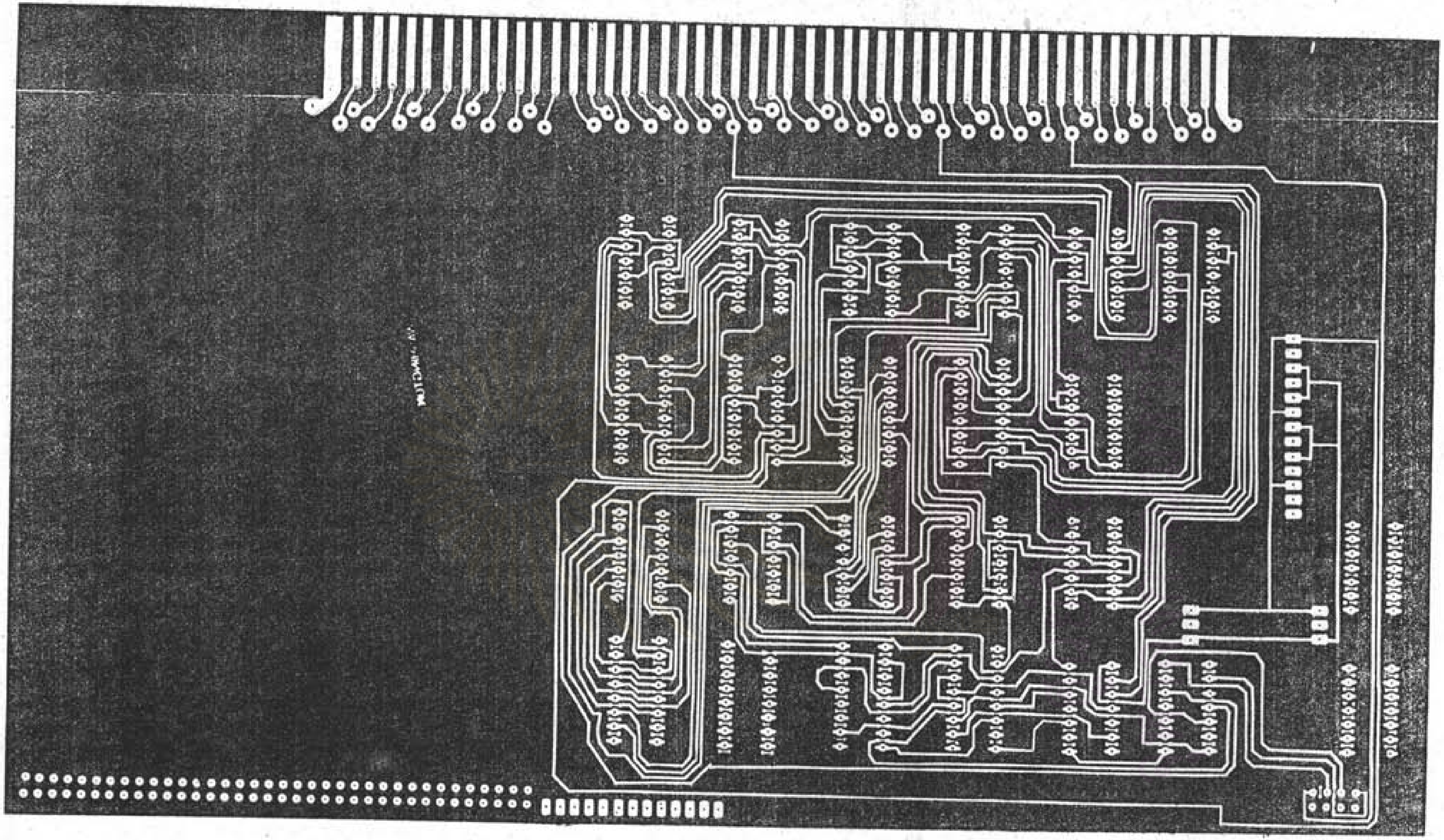
Name	Description
IN +	Non-inverting op-amp input.
IN-	Inverting op-amp input.
GS	Gain select. Gives access to output of front end differential amplifier for connection of feedback resistor.
V_{REF}	Reference voltage output, nominally $V_{DD}/2$ is used to bias inputs at mid-rail (see Fig.2).
IC	Internal connection. Must be tied to V_{SS}.
IC	Internal connection. Must be tied to V_{SS}.
OSC1	Clock input.
OSC2	Clock output. A 3.5795 MHz crystal connected between OSC1 and OSC2 completes the internal oscillator circuit.
V_{SS}	Negative power supply input.
TOE	3- state output enable (input). Logic high enables the outputs Q1-Q4. Internal pull up.
Q1-Q4	3-state data outputs. When enabled by TOE, provide the code corresponding to the last valid tone-pair received (see Fig. 5).
StD	Delayed steering output. Presents a logic high when a received tone-pair has been registered and the output latch updated; returns to logic low when the voltage on St/Gt falls below V_{TSt}.
ESt	Early steering output. Presents a logic high once the digital algorithm has detected a valid tone pair (signal condition). Any momentary loss of signal condition will cause ESt to return to a logic low.
St/GT	Steering input/guard time output (bi-directional). A voltage greater than V_{TSt} detected at St causes the device to register the detected tone pair and update the output latch. A voltage less than V_{TSt} frees the device to accept a new tone pair. The GT output acts to reset the external steering time-constant; its state is a function of ESt and the voltage on St.
V_{DD}	Positive power supply input.

ภาคผนวก ค

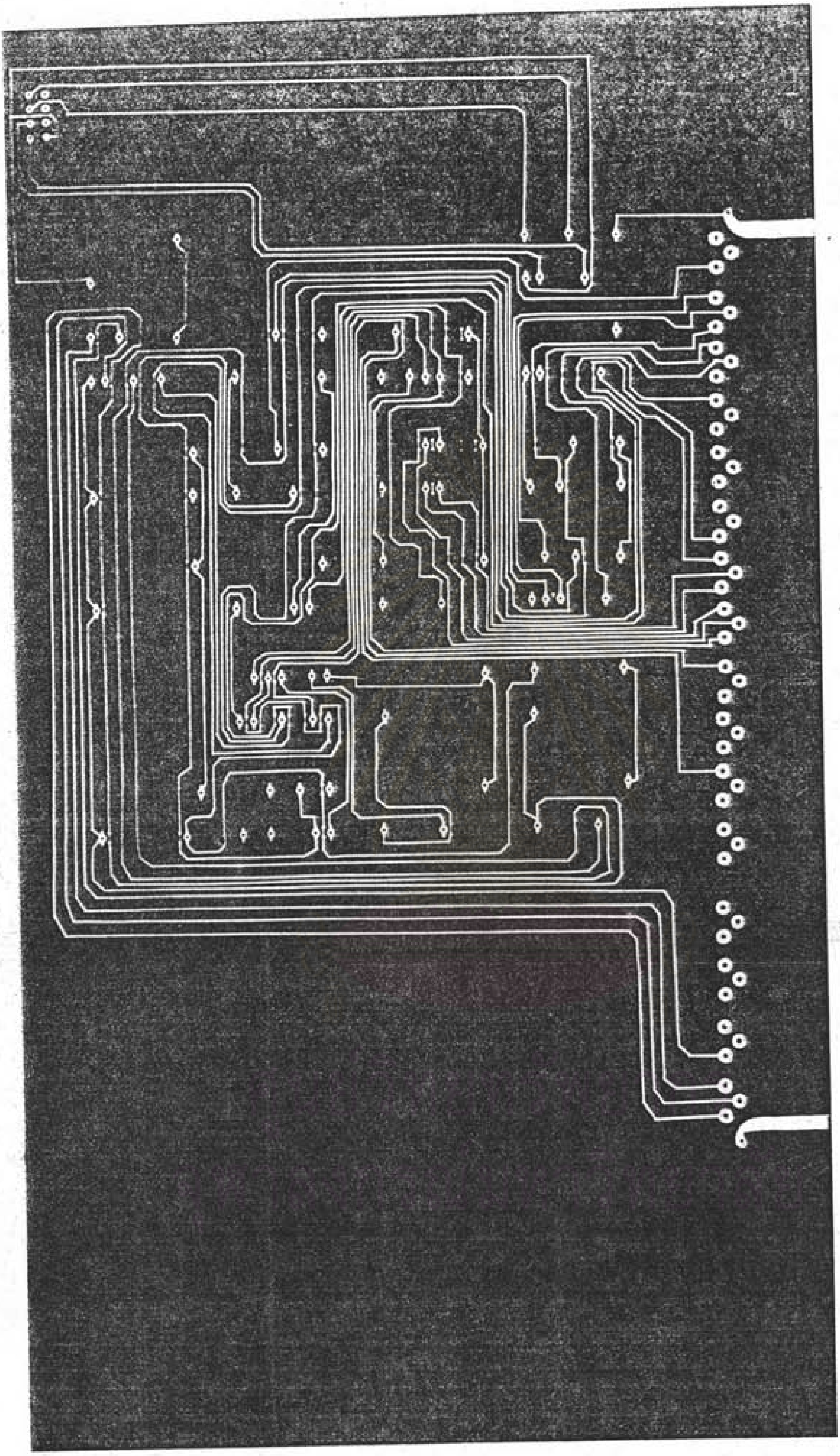
แผนผังแผ่นวงจรพิมพ์ของอุปกรณ์อินเตอร์เฟสต่างๆ



ค.1 แผ่นพิมพ์วงจรพิมพ์อุปกรณ์ต่อนเตอร์เฟสโทรศัพท์



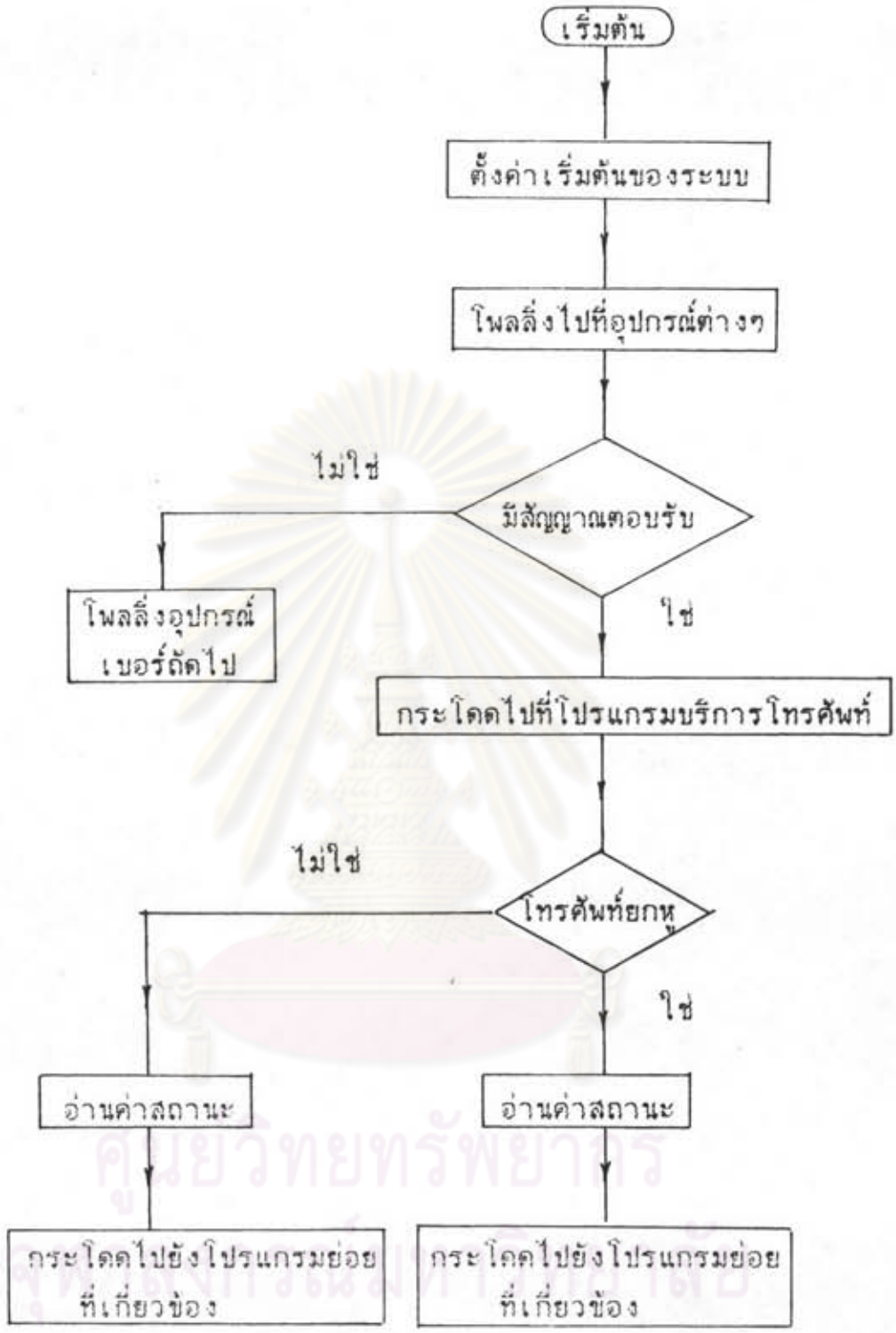
ค.2 แผ่นฟิล์มวงจรพิมพ์อุปกรณ์อินเตอร์เฟสข้อมูล



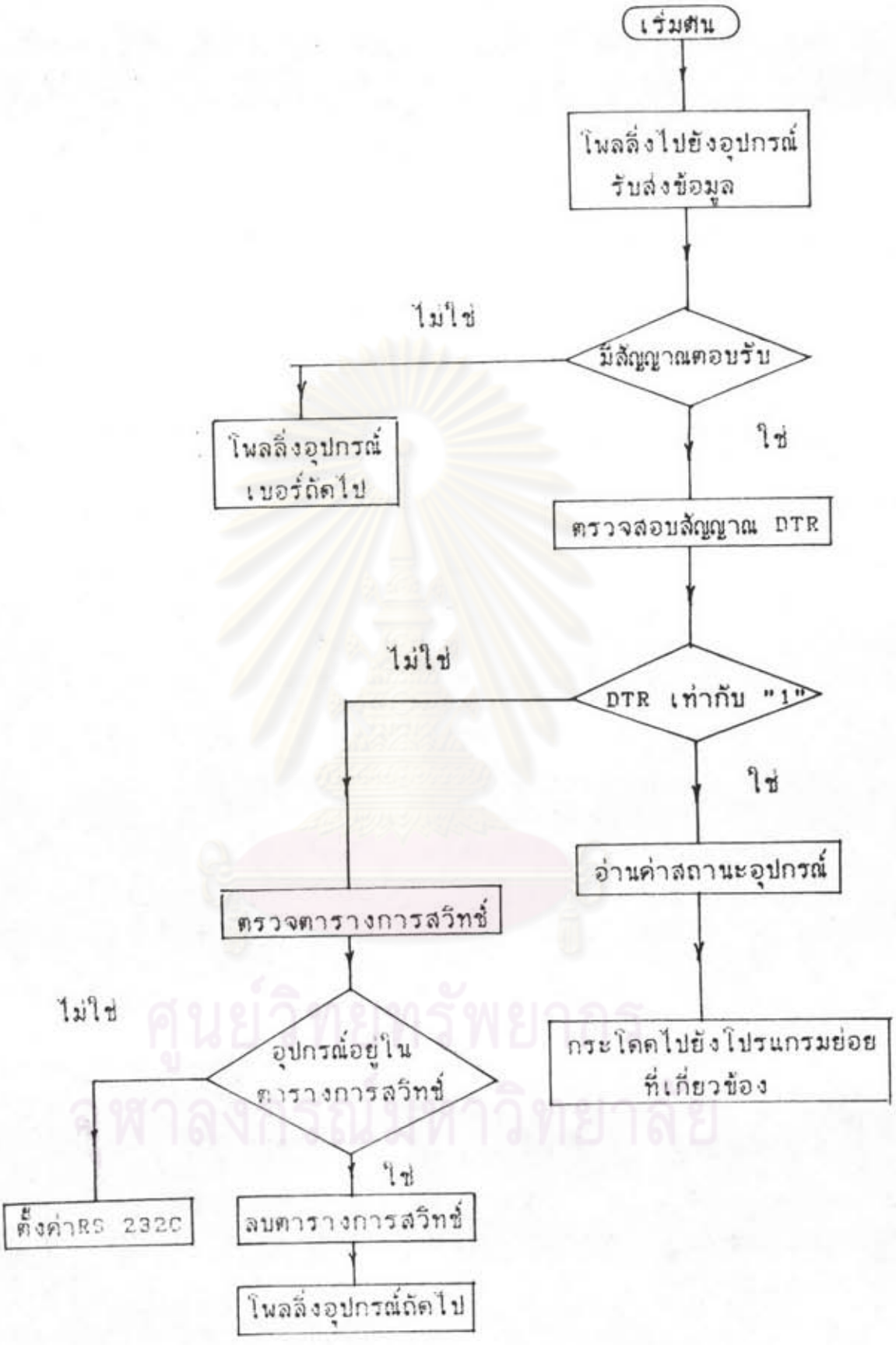
ค.2 แผ่นฟิล์มวงจรพิมพ์อุปกรณ์อินเตอร์เฟสข้อมูล

ภาคผนวก ง

โฟลว์ชาร์ทของ
โปรแกรมควบคุมระบบ



ง.1 โฟลว์ชาร์ทการติดต่อระหว่างหน่วยควบคุมสถานีและอุปกรณ์โทรศัพท์



ง.2 โฟลว์ชาร์ทการติดต่อระหว่างหน่วยควบคุมสถานีและอุปกรณ์รับส่งข้อมูล

ภาคผนวก จ

โปรแกรมควบคุมข่ายวงจรท้องถิ่น ที่ภาควิชาวิศวกรรมไฟฟ้า

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                        C
                          ;*****************************************************************XX
                          ;THIS IS MAIN PROGRAM OF LAN

                        C                 INCLUDE T021.MAC
                        C ;****   START OF FILE NO. 1
                        C ;               ********************************************
                        C ;               *                                          *
                        C ;               *   LOCAL AREA NETWORK  CONTROL PROGRAM    *
                        C ;               *                                          *
                        C ;               *              EDITED BY                   *
                        C ;               *                                          *
                        C ;               *   MR. THIRAWAT  KHAMDEE                  *
                        C ;               *                                          *
                        C ;               ********************************************
                        C
                        C                 .Z80
0000'                   C                 ASEG
40FF                    C STACKPT         EQU     40FFH
                        C ;
0020                    C RIM             EQU     20H
0030                    C SIM             EQU     30H
40E0                    C PSTN0           EQU     40E0H
40E1                    C PSTN1           EQU     40E1H
40E2                    C PSTN2           EQU     40E2H
40E3                    C TIMERC          EQU     40E3H
001D                    C DIAL            EQU     001DH
```

```
001E                    C BUSY          EQU     001EH
001F                    C RINGBACK      EQU     001FH
00EC                    C STRCSMA       EQU     00ECH
00ED                    C BUFFER11      EQU     00EDH
00EE                    C BUFFER12      EQU     00EEH
00EF                    C BUFFER13      EQU     00EFH
00F0                    C BUFFER21      EQU     00F0H
00F1                    C BUFFER22      EQU     00F1H
00F2                    C BUFFER23      EQU     00F2H
00F3                    C CONTROL2      EQU     00F3H
00F4                    C OFFHOOK       EQU     00F4H
00F5                    C EXTROUTE      EQU     00F5H
00F6                    C CSMA          EQU     00F6H
00F7                    C DTR           EQU     00F7H
00F8                    C COMMAND       EQU     00F8H
00F9                    C DECODE0       EQU     00F9H
00FA                    C DECODE1       EQU     00FAH
00FB                    C DECODE2       EQU     00FBH
00FC                    C PASSER        EQU     00FCH
00FD                    C DIALER1       EQU     00FDH
00FE                    C DIALER        EQU     00FEH
00FF                    C STATION       EQU     00FFH
                        C
                        C               ORG     0H
0000    31 40FF         C               LD      SP,STACKPT
                        C
0003    C3 0100         C               JP      100H
                        C ;
                        C               ORG     24H
0024    F3              C TRAPSERV:     DI
0025    C3 0050         C               JP      50H
                        C
                        C               ORG     2CH
002C    C3 29D7         C               JP      RST5.5          ;RST 5.5
                        C
                        C               ORG     34H
0034    C3 28ED         C               JP      RST6.5          ;RST6.5
                        C
                        C               ORG     38H
0038    C3 3102         C               JP      TEST
                        C
                        C               ORG     3CH
003C    C3 2E4C         C               JP      RST7.5;RST7..5
                        C ;
                        C               ORG     50H
0050    D3 21           C STARTSERV:    OUT     (21H),A         ;Write A first
0052    79              C               LD      A,C
0053    D3 22           C               OUT     (22H),A         ;Write C
0055    78              C               LD      A,B
0056    D3 23           C               OUT     (23H),A         ;Write B
0058    7B              C               LD      A,E
0059    D3 24           C               OUT     (24H),A         ;Write E
005B    7A              C               LD      A,D
005C    D3 25           C               OUT     (25H),A         ;Write D
005E    7D              C               LD      A,L
005F    D3 26           C               OUT     (26H),A         ;Write L
```

```
0061  7C          C              LD      A,H
0062  D3 27       C              OUT     (27H),A         ;Write H
0064  21 0000     C              LD      HL,0000         ;Clear HL
0067  39          C              ADD     HL,SP           ;Move SP to HL
0068  7D          C              LD      A,L
0069  D3 28       C              OUT     (28H),A         ;Write low byte SP
006B  7C          C              LD      A,H
006C  D3 29       C              OUT     (29H),A         ;Write high byte SP
006E  F5          C              PUSH    AF
006F  C1          C              POP     BC              ;Exchange F to C
0070  79          C              LD      A,C
0071  D3 2B       C              OUT     (2BH),A         ;Write FLAGS
0073  C1          C              POP     BC              ;Get PC from stack
0074  C5          C              PUSH    BC
0075  79          C              LD      A,C
0076  D3 2A       C              OUT     (2AH),A         ;Write content in stack (low byte)
0078  78          C              LD      A,B
0079  D3 2B       C              OUT     (2BH),A         ;Write content in stack (high byte)
007B  00          C BREAKPT:     NOP                     ;Break point between write & read
007C  DB 2B       C              IN      A,(2BH)
007E  4F          C              LD      C,A             ;Read FLAGS & save in C
007F  C5          C              PUSH    BC
0080  F1          C              POP     AF              ;Exchange C to FLAGS
0081  DB 22       C              IN      A,(22H)
0083  4F          C              LD      C,A             ;Read C
0084  DB 23       C              IN      A,(23H)
0086  47          C              LD      B,A             ;Read B
0087  DB 24       C              IN      A,(24H)
0089  5F          C              LD      E,A             ;Read E
008A  DB 25       C              IN      A,(25H)
008C  57          C              LD      D,A             ;Read D
008D  DB 28       C              IN      A,(28H)
008F  6F          C              LD      L,A
0090  DB 29       C              IN      A,(29H)
0092  67          C              LD      H,A
0093  F9          C              LD      SP,HL           ;Read SP
0094  E1          C              POP     HL              ;Get PC from stack
0095  DB 2A       C              IN      A,(2AH)         ;Read new PClow
0097  6F          C              LD      L,A
0098  DB 2B       C              IN      A,(2BH)         ;Read new PChigh
009A  67          C              LD      H,A
009B  E5          C              PUSH    HL              ;Save new PC to stack
009C  DB 26       C              IN      A,(26H)
009E  6F          C              LD      L,A             ;Read L
009F  DB 27       C              IN      A,(27H)
00A1  67          C              LD      H,A             ;Read H
00A2  DB 21       C              IN      A,(21H)         ;Read A
00A4  FB          C              EI
00A5  C9          C ENDTRAP:     RET
                  C ;
                  C              ORG     100H
                  C                      .Z80
0100              C                      ASEG
0100  CD 0141     C              CALL    INIT
0103  CD 0159     C              CALL    FILLRAM
0106  CD 01A2     C              CALL    CLRSWTB
```

```
0109  CD 01A2    C               CALL    CLRSWTB
010C  CD 014E    C               CALL    INSERT
010F  CD 2B14    C               CALL    PCLRALLDV               ;POLL CLEAR ALL DV:
0112  CD 2B14    C               CALL    PCLRALLDV
0115  0E 10      C               LD      C,10H
0117  16 A0      C               LD      D,0A0H
0119  CD 29F7    C               CALL    SWTB0
011C  16 FF      C               LD      D,0FFH
011E  CD 2A80    C               CALL    SSIG
                 C ;TO CLEAR TS:16
0121  06 0C      C               LD      B,0CH
0123  1E 00      C               LD      E,00H
0125  1C         C OFFAG:        INC     E
0126  CD 2FBC    C               CALL    OFFRELAY
0129  7B         C               LD      A,E
012A  FE 10      C               CP      10H
012C  C2 0125    C               JP      NZ,OFFAG
                 C ;TO INITIAL RELAY PSTN
012F  CD 3177    C               CALL    LPDELAY
0132  00         C               NOP
0133  00         C               NOP
0134  0E 19      C               LD      C,19H
0136  16 61      C               LD      D,61H
0138  CD 29F7    C               CALL    SWTB0
013B  CD 2A04    C               CALL    CSWT90
013E  C3 01B0    C               JP      MAIN
                 C
0141  3E 0D      C INIT:         LD      A,0DH
0143  D3 00      C               OUT     (00H),A
0145  3E 1A      C               LD      A,1AH
0147  D3 40      C               OUT     (40H),A
0149  3E 7D      C               LD      A,7DH           ;FOR INITIAL MODE INSTRUCTION
014B  D3 C1      C               OUT     (0C1H),A        ;OF 8251
                 C               ;FOR  1 STOP BIT ,EVEN PARITY,8 BIT WORDLENGTH , BAUD RATE(*1)
014D  C9         C               RET
                 C
014E  3E 01      C INSERT:       LD      A,01H
0150  32 00F3    C               LD      (CONTROL2),A
0153  3E 02      C               LD      A,02H
0155  32 00FF    C               LD      (STATION),A
0158  C9         C               RET
                 C
0159             C FILLRAM:      ;FILL RAM 0155(2) WITH FFH
0159  21 00FF    C               LD      HL,00FFH
015C  3E FF      C FILL:         LD      A,0FFH
015E  77         C               LD      (HL),A
015F  2B         C               DEC     HL
0160  3E 7F      C               LD      A,7FH
0162  BC         C               CP      H
0163  C2 015C    C               JP      NZ,FILL
                 C ;AND ALSO FILL RAM(1) TOO
0166  21 40E0    C               LD      HL,40E0H
0169  3E FF      C FILL1:        LD      A,0FFH
016B  77         C               LD      (HL),A
016C  2B         C               DEC     HL
016D  3E 3F      C               LD      A,3FH
```

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MACRO-80 3.43   18-Sep-81       PAGE    1-4


016F   BC          C               CP      H
0170   C2 0169     C               JP      NZ,FILL1
0173   C9          C               RET
0174                C READRAM:      ;TO FIND TSx THAT EMTPY
                    C               ;OUT TSx = C
0174   26 00       C               LD      H,00H
0176   2E 00       C               LD      L,00H
0178   2C          C INC:          INC     L
0179   7D          C               LD      A,L
017A   FE 10       C               CP      10H             ;TSx16
017C   CA 0178     C               JP      Z,INC
017F   FE 20       C               CP      20H
0181   CA 0192     C               JP      Z,TSFULL
0184   7E          C               LD      A,(HL)
0185   FE FF       C               CP      0FFH
0187   CA 018D     C               JP      Z,TSEMPTY
018A   C3 0178     C               JP      INC
018D   7D          C TSEMPTY:      LD      A,L
018E   E6 1F       C               AND     1FH
0190   4F          C               LD      C,A
0191   C9          C               RET
0192   0E 20       C TSFULL:       LD      C,20H
0194   C9          C               RET
                    C
0195   3E C0       C CLRPCLR:      LD      A,0C0H
0197   D3 01       C               OUT     (01H),A
0199   3E 0F       C               LD      A,0FH
019B   D3 42       C               OUT     (42H),A
019D   3E C0       C               LD      A,0C0H
019F   D3 01       C               OUT     (01H),A
01A1   C9          C               RET
                    C
01A2   3E C0       C CLRSWTB:      LD      A,0C0H
                    C
01A4   47          C LOOP:         LD      B,A
01A5   FE E0       C               CP      0E0H
01A7   CA 01B7     C               JP      Z,FULL
01AA   D3 01       C               OUT     (01H),A
01AC   3E 00       C               LD      A,00H
01AE   D3 42       C               OUT     (42H),A
01B0   78          C               LD      A,B
01B1   D3 01       C               OUT     (01H),A
01B3   3C          C               INC     A
01B4   C3 01A4     C               JP      LOOP
01B7   C9          C FULL:         RET
01B8   00          C               NOP
01B9   00          C               NOP
01BA   00          C               NOP
                    C
                    C
                    C       ;***********************************************
                    C
01BB                C MAIN:         ;
                    C
01BB   3E 00       C               LD      A,00H           ;INITIAL ALL REGISTER
01BD   06 00       C               LD      B,00H
```

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01BF   0E 00       C               LD      C,00H
01C1   16 00       C               LD      D,00H
01C3   1E 00       C               LD      E,00H
01C5   26 00       C               LD      H,00H
01C7   2E 00       C               LD      L,00H
                   C
01C9   06 00       C               LD      B,00H
                   C               ;SCAN CALL EACH DEVICE
                   C               ;INP    DV# = B
01CB   04          C SCAN:         INC     B
01CC   3E 09       C               LD      A,09H           ;SET RST6.5
                   C ;AND RST7.5
01CE   30          C               DB      SIM
01CF   FB          C               EI
                   C
01D0   58          C SCAN1:        LD      E,B
01D1   78          C               LD      A,B
01D2   FE 00       C               CP      00H
01D4   CA 0239     C               JP      Z,MICRO
01D7   3A 00F6     C               LD      A,(CSMA)
01DA   FE 09       C               CP      09H
01DC   CA 0280     C               JP      Z,TRANSIG
01DF   FE 15       C               CP      15H
01E1   CA 0282     C               JP      Z,TRANCOMD
01E4   FE 00       C               CP      00H
01E6   CA 031F     C               JP      Z,SERVFER
01E9   CD 2B24     C               CALL    SETCLR
01EC               C POLLSET:
                   C               ;INP DV# = B
                   C               ;OUT XST0  DV# =0
01EC   3E D0       C               LD      A,0D0H
01EE   D3 01       C               OUT     (01H),A
01F0   78          C               LD      A,B
01F1   EE C0       C               XOR     0C0H
01F3   57          C               LD      D,A
01F4   D3 42       C               OUT     (42H),A
01F6   3E D0       C               LD      A,0D0H
01F8   D3 01       C               OUT     (01H),A
01FA   3E 04       C               LD      A,04H           ;WAIT FOR ACK HIGH
01FC   3D          C .0:           DEC     A
01FD   FE 00       C               CP      00H
01FF   C2 01FC     C               JP      NZ,.0
0202   20          C               DB      RIM
0203   F6 7F       C               OR      7FH
0205   FE 7F       C               CP      7FH
0207   C3 0327     C               JP      STATE           ;IF ZERO ACK EXIST
020A   78          C               LD      A,B
020B   FE 01       C               CP      01H
020D   CA 01D0     C               JP      Z,SCAN1
0210   78          C               LD      A,B
0211   FE 03       C               CP      03H
0213   CA 01D0     C               JP      Z,SCAN1
0216   78          C               LD      A,B
0217   FE 06       C               CP      06H
0219   CA 01D0     C               JP      Z,SCAN1
021C   78          C               LD      A,B
```

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021D    FE 07       C               CP      07H
021F    CA 01D0     C               JP      Z,SCAN1
0222    78          C               LD      A,B
0223    FE 0C       C               CP      0CH
0225    CA 01D0     C               JP      Z,SCAN1
0228    3E 01       C HERE:         LD      A,01H
022A    3D          C .1:           DEC     A
022B    FE 00       C               CP      00H
022D    C2 022A     C               JP      NZ,.1
0230    CD 0968     C               CALL    CLRSET
0233    CD 2ABB     C               CALL    POLLCLR
0236    C3 01CB     C               JP      SCAN
                    C       ;********************************************
                    C
0239    06 10       C MICRO:        LD      B,10H
023B    04          C MSCAN:        INC     B
023C    78          C MSCAN1:       LD      A,B
023D    FE 16       C               CP      16H
023F    CA 01BB     C               JP      Z,MAIN
0242    3A 00F6     C               LD      A,(CSMA)                ;CHECK RST6.5
0245    FE 00       C               CP      00H
0247    CA 0280     C               JP      Z,TRANSIG
024A    FE 15       C               CP      15H
024C    CA 0282     C               JP      Z,TRANCOMD
024F    CD 2B24     C               CALL    SETCLR
0252    CD 2AA4     C               CALL    POLLSETDV
0255    3E 04       C               LD      A,04H
0257    3D          C .C:           DEC     A
0258    FE 00       C               CP      00H
025A    C2 0257     C               JP      NZ,.C
025D    20          C               DB      RIM
025E    F6 7F       C               OR      7FH
0260    FE 7F       C               CP      7FH
0262    C3 078C     C               JP      MSTATE
0265    78          C               LD      A,B
0266    FE 11       C               CP      11H
0268    CA 023C     C               JP      Z,MSCAN1
026B    78          C               LD      A,B
026C    FE 13       C               CP      13H
026E    CA 023C     C               JP      Z,MSCAN1
0271    78          C               LD      A,B
0272    FE 14       C               CP      14H
0274    CA 023C     C               JP      Z,MSCAN1
0277    CD 0968     C               CALL    CLRSET
027A    CD 2ABB     C               CALL    POLLCLR
027D    C3 023B     C               JP      MSCAN
                    C
                    C       ;::::::::::::::::::::::::::::::::::::::::::::
                    C
                    C               ;THIS ROUTINE TRANSLATE SIG.
0280                C TRANSIG:      ;
0280    CD 2B24     C               CALL    SETCLR
0283    CD 2AA4     C               CALL    POLLSETDV
0286    3A 00ED     C               LD      A,(BUFFER11)
0289    FE FF       C               CP      0FFH
028B    CA 02DF     C               JP      Z,CLRCSMAF
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                    C ;IF BUFFER11 = 0FFH WE MUST CLR CSMA BECAUSE PROG. LOOP
028E   E6 1F        C                   AND     1FH             ;DELETE MOST SIGN. BIT
0290   B8           C                   CP      B
0291   CA 02A5      C                   JP      Z,TRANS         ;GO TO FIND DV. TO COMM.
0294   CD 0968      C                   CALL    CLRSET          ;IF NOT ZERO SCAN TO
0297   CD 2ABB      C                   CALL    POLLCLR         ;FIND DV. TO COMM.
029A   78           C                   LD      A,B
029B   F6 EF        C                   OR      0EFH
029D   FE EF        C                   CP      0EFH
029F   CA 01CB      C                   JP      Z,SCAN          ;IF ZERO TELEPHONE
02A2   C3 023B      C                   JP      MSCAN
02A5   F6 EF        C TRANS:            OR      0EFH
02A7   FE EF        C                   CP      0EFH
02A9   CA 02AF      C                   JP      Z,TELE          ;IF ZERO TELEPHONE
02AC   C3 0946      C                   JP      EXRMSTATE
02AF   C3 0917      C TELE:             JP      EXRSTATE
                    C
                    C       ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
                    C
                    C       ;@@@@@@@@@@@@@@@@@@@
                    C
                    C       ;THIS ROUTINE TRANSLATE COMD
02B2   CD 2824      C TRANCOMD:         CALL    SETCLR
02B5   CD 2AA4      C                   CALL    POLLSETDV
02B8   3A 00ED      C                   LD      A,(BUFFER11)
02BB   FE FF        C                   CP      0FFH
02BD   CA 02DF      C                   JP      Z,CLRCSMAF
                    C ;IF BUFFER11 = 0FFH WE MUST CLR CSMA BECAUSE PROG. LOOP
02C0   E6 1F        C                   AND     1FH
02C2   B8           C                   CP      B
02C3   CA 02D7      C                   JP      Z,COMMAN
02C6   CD 0968      C                   CALL    CLRSET
02C9   CD 2ABB      C                   CALL    POLLCLR
02CC   78           C                   LD      A,B
02CD   F6 EF        C                   OR      0EFH
02CF   FE EF        C                   CP      0EFH
02D1   CA 01CB      C                   JP      Z,SCAN
02D4   C3 023B      C                   JP      MSCAN
02D7   F6 EF        C COMMAN:           OR      0EFH
02D9   CA 02DC      C                   JP      Z,TELE1
02DC   C3 0957      C TELE1:            JP      COMDSTATE
                    C
                    C       ;@@@@@@@@@@@@@@@@@@@@@@@@
                    C
02DF   3E FF        C CLRCSMAF:         LD      A,0FFH
02E1   32 00F6      C                   LD      (CSMA),A
02E4   CD 0968      C                   CALL    CLRSET
02E7   CD 2ABB      C                   CALL    POLLCLR
02EA   3E 09        C                   LD      A,09H
02EC   E6 DF        C                   AND     0DFH
02EE   4F           C                   LD      C,A
02EF   D3 91        C                   OUT     (91H),A
02F1   3E 00        C                   LD      A,00H
02F3   D3 42        C                   OUT     (42H),A
02F5   79           C                   LD      A,C
02F6   D3 91        C                   OUT     (91H),A
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02F8    3E 0B       C               LD      A,0BH
02FA    E6 DF       C               AND     0DFH
02FC    4F          C               LD      C,A
02FD    D3 81       C               OUT     (81H),A
02FF    3E 00       C               LD      A,00H
0301    D3 42       C               OUT     (42H),A
0303    79          C               LD      A,C
0304    D3 81       C               OUT     (81H),A
0306    3E 0D       C               LD      A,0DH
0308    E6 DF       C               AND     0DFH
030A    4F          C               LD      C,A
030B    D3 81       C               OUT     (81H),A
030D    3E 00       C               LD      A,00H
030F    D3 42       C               OUT     (42H),A
0311    79          C               LD      A,C
0312    D3 81       C               OUT     (81H),A
0314    78          C               LD      A,B
0315    F6 EF       C               OR      0EFH
0317    FE EF       C               CP      0EFH
0319    CA 01CB     C               JP      Z,SCAN
031C    C3 023B     C               JP      MSCAN
                    C       ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
031F                C SERVFER:      ;RETURN CSMA TO 0FFH
031F    3E FF       C               LD      A,0FFH
0321    32 80F6     C               LD      (CSMA),A
0324    C3 01CB     C               JP      SCAN
                    C       ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
                    C
                    C       ;+++++++++++++++++++++++++++++++++++++++++++++++
0327                C STATE:        ;
0327    78          C               LD      A,B             ;DISPLAY DV# BE POLLED
0328    D3 30       C               OUT     (30H),A         ;AT PORT 30H
032A    FE 0C       C               CP      0CH
032C    CA 08C9     C               JP      Z,OUTSIDESTATE  ;IF DV# = 0CH
                    C                                       ;THIS IS PUBLC LINE DEVICE
032F    FE 01       C               CP      01H
0331    CA 034C     C               JP      Z,STAT
0334    FE 03       C               CP      03H
0336    CA 034C     C               JP      Z,STAT
0339    FE 06       C               CP      06H
033B    CA 034C     C               JP      Z,STAT
033E    FE 07       C               CP      07H
0340    CA 034C     C               JP      Z,STAT
0343    CD 0968     C               CALL    CLRSET
0346    CD 2ABB     C               CALL    POLLCLR
0349    C3 01CB     C               JP      SCAN
                    C
034C    CD 099E     C STAT:         CALL    OFH
034F    3A 80F4     C               LD      A,(OFFHOOK)
0352    FE 11       C               CP      11H
0354    CA 035A     C               JP      Z,AHEAD
0357    C3 0479     C               JP      AHEAD1
                    C                       ;IF ZERO DV# NO OFH
035A                C AHEAD:        ;
035A    CD 2F2?     C               CALL    READSTATE
035D    FE 00       C               CP      00H
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035F  CA 046E  C          JP    Z, IDLES          ;TO IDLE
0362  FE 06    C          CP    06H
0364  CC 3068  C          CALL  Z,RDESRING        ;RESET DES. RING
0367  FE 0C    C          CP    0CH
0369  CC 2F31  C          CALL  Z,RING
036C  CA 01CB  C          JP    Z,SCAN            ;STATE C IS  SPECIAL
                C          ;STATE SO WHEN OFH WE DON'T STORE STATE0
036F  FE 0B    C          CP    0BH
0371  CA 01CB  C          JP    Z,SCAN            ;STATE B IS SPECIAL
                C          ;STATE SO WHEN OFH WE DON'T STORE STATE0
0374  FE 0D    C          CP    0DH
                C
0376  CA 1C19  C          JP    Z,CLRST0D
0379  FE 0E    C          CP    0EH
037B  CA 1C6B  C          JP    Z,CLRST0E
037E  FE 10    C          CP    10H
0380  CA 272A  C          JP    Z,OUT4            ;STATE 10H IS SPECIAL
                C          ;STATE SO WHEN OFH WE DON'T STORE STATE0
0383  FE 12    C          CP    12H
0385  CA 0F5F  C          JP    Z,STATE12
0388  FE F5    C          CP    0F5H
038A  CC 3115  C          CALL  Z,RDELAY
038D  CC 2F31  C          CALL  Z,RING
0390  CA 01CB  C          JP    Z,SCAN            ;STATE F5H IS SPECIAL
                C          ;STATE SO WHEN OFH WE DON'T STORE STATE0
0393  FE 13    C          CP    13H
0395  CA 1CA7  C          JP    Z,CLRST13
0398  FE 40    C          CP    40H
039A  CA 1E43  C          JP    Z,CLRST40
039D  FE 41    C          CP    41H
039F  CA 1E43  C          JP    Z,CLRST40
03A2  FE 42    C          CP    42H
03A4  CA 1F88  C          JP    Z,CLRST49
03A7  FE 49    C          CP    49H
03A9  CA 1F88  C          JP    Z,CLRST49
03AC  FE 43    C          CP    43H
03AE  CA 1F88  C          JP    Z,CLRST49
03B1  FE 44    C          CP    44H
03B3  CA 1F88  C          JP    Z,CLRST49
03B6  FE 45    C          CP    45H
03B8  CA 1FD8  C          JP    Z,CLRST4A
03B9  FE 46    C          CP    46H
03BD  CC 2F31  C          CALL  Z,RING
03C0  CA 01CB  C          JP    Z,SCAN
03C3  FE 47    C          CP    47H
03C5  CA 1F26  C          JP    Z,CLRST47
03C8  FE 4A    C          CP    4AH
03CA  CA 1FD9  C          JP    Z,CLRST4A
03CD  FE 4B    C          CP    4BH
03CF  CA 1F88  C          JP    Z,CLRST49
03D2  FE 4C    C          CP    4CH
03D4  CA 1F88  C          JP    Z,CLRST49
03D7  FE 50    C          CP    50H
03D9  CA 1E98  C          JP    Z,CLRST50
03DC  FE 51    C          CP    51H
03DE  CA 1E98  C          JP    Z,CLRST50
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03E1  FE 61      C          CP      61H
03E3  CA 1F88    C          JP      Z,CLRST49
03E6  FE 62      C          CP      62H
03E8  CA 1F88    C          JP      Z,CLRST49
03EB  FE 70      C          CP      70H
03ED  CA 2035    C          JP      Z,CLRST70
03F0  FE 71      C          CP      71H
03F2  CA 2035    C          JP      Z,CLRST70
03F5  FE 72      C          CP      72H
03F7  CA 20BC    C          JP      Z,CLRST79
03FA  FE 79      C          CP      79H
03FC  CA 20BC    C          JP      Z,CLRST79
03FF  FE 73      C          CP      73H
0401  CA 20BC    C          JP      Z,CLRST79
0404  FE 74      C          CP      74H
0406  CA 20BC    C          JP      Z,CLRST79
0409  FE 75      C          CP      75H
040B  CA 2113    C          JP      Z,CLRST7A
040E  FE 76      C          CP      76H
0410  CC 2F31    C          CALL    Z,RING
0413  CA 01CB    C          JP      Z,SCAN
0416  FE 77      C          CP      77H
0418  CA 209F    C          JP      Z,CLRST77
041B  FE 7A      C          CP      7AH
041D  CA 2113    C          JP      Z,CLRST7A
0420  FE 7B      C          CP      7BH
0422  CA 20BC    C          JP      Z,CLRST79
0425  FE 7C      C          CP      7CH
0427  CA 20BC    C          JP      Z,CLRST79
042A  FE 81      C          CP      81H
042C  CA 20BC    C          JP      Z,CLRST79
042F  FE 82      C          CP      82H
0431  CA 20BC    C          JP      Z,CLRST79
0434  FE 90      C          CP      90H
0436  CA 2177    C          JP      Z,CLRST90
0439  FE 91      C          CP      91H
043B  CA 2177    C          JP      Z,CLRST90
043E  FE 92      C          CP      92H
0440  CA 21E8    C          JP      Z,CLRST92
0443  FE 93      C          CP      93H
0445  CA 21E8    C          JP      Z,CLRST92
0448  FE 94      C          CP      94H
044A  CA 2220    C          JP      Z,CLRST94
044D  FE 20      C          CP      20H
044F  CA 1D43    C          JP      Z,CLRST20
0452  FE 22      C          CP      22H
0454  CC 2F31    C          CALL    Z,RING
0457  CA 01CB    C          JP      Z,SCAN
045A  FE 23      C          CP      23H
045C  CA 1D7F    C          JP      Z,CLRST23
045F  FE 24      C          CP      24H
0461  CA 1D92    C          JP      Z,CLRST24
0464  FE 25      C          CP      25H
0466  CA 1DB9    C          JP      Z,CLRST25
0469  FE 26      C          CP      26H
046B  CA 1E12    C          JP      Z,CLRST26
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                        C
0465    CD 2F50         C IDLES:        CALL    CRING
0471    1E 00           C               LD      E,00H
0473    CD 2F20         C               CALL    STRSTATE        ;STRSTATE0
0476    CD 30E6         C               CALL    RSETSTATE
0479    3A 80F4         C AHEAD1:       LD      A,(OFFHOOK)
047C    FE 11           C               CP      11H
047E    CA 068A         C               JP      Z,PROTOCOL      ;IF ZERO DV: NO OFH
0481    CD 0968         C               CALL    CLRSET
0484    CD 2A88         C               CALL    POLLCLR
0487    CD 2F28         C               CALL    READSTATE
048A    FE 01           C               CP      01H
048C    CA 05E5         C               JP      Z,NEWSTATE1
048F    FE 31           C               CP      31H
0491    CA 05E5         C               JP      Z,NEWSTATE1
0494    FE 32           C               CP      32H
0496    CA 05E5         C               JP      Z,NEWSTATE1
0499    FE 61           C               CP      61H
049B    CA 1535         C               JP      Z,STATE44
049E    FE 62           C               CP      62H
04A0    CA 1535         C               JP      Z,STATE44
04A3    FE 91           C               CP      091H
04A5    CA 1B6B         C               JP      Z,STATE91
04A8    FE 92           C               CP      092H
04AA    CA 01CB         C               JP      Z,SCAN
04AD    FE 94           C               CP      094H
04AF    CA 1B7A         C               JP      Z,STATE94
04B2    FE 81           C               CP      81H
04B4    CA 1931         C               JP      Z,STATE74
04B7    FE 82           C               CP      82H
04B9    CA 1931         C               JP      Z,STATE74
04BC    FE 04           C               CP      04H
04BE    CA 0619         C               JP      Z,NEWSTATE4
04C1    FE 05           C               CP      05H
04C3    CA 05C8         C               JP      Z,S6
04C6    FE 06           C               CP      06H
04C8    CA 05CB         C               JP      Z,S7
04CB    FE 0A           C               CP      0AH
04CD    CA 01CB         C               JP      Z,SCAN
04D0    FE 0B           C               CP      0BH
04D2    CA 0909         C               JP      Z,NEXTSTATEA
04D5    FE 0C           C               CP      0CH
04D7    CA 092D         C               JP      Z,NEXTSTATEC
04DA    FE 0D           C               CP      0DH
04DC    CA 01CB         C               JP      Z,SCAN
04DF    FE 0E           C               CP      0EH
04E1    CA 01CB         C               JP      Z,SCAN
04E4    FE 0F           C               CP      0FH
04E6    CA 01CB         C               JP      Z,SCAN
04E9    FE 10           C               CP      10H
04EB    CA 0EE1         C               JP      Z,STATE10
04EE    FE 12           C               CP      12H
04F0    CA 01CB         C               JP      Z,SCAN
04F3    FE F5           C               CP      0F5H
04F5    CA 0EC6         C               JP      Z,STATE8
04F8    FE 13           C               CP      13H
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04FA  CA 01CB     C        JP      Z,SCAN
04FD  FE 40       C        CP      40H
04FF  CA 01CB     C        JP      Z,SCAN
0502  FE 41       C        CP      41H
0504  CA 12D3     C        JP      Z,STATE41
0507  FE 42       C        CP      42H
0509  CA 145F     C        JP      Z,STATE42
050C  FE 43       C        CP      43H
050E  CA 1535     C        JP      Z,STATE44
0511  FE 44       C        CP      44H
0513  CA 1535     C        JP      Z,STATE44
0516  FE 45       C        CP      45H
0518  CA 16FF     C        JP      Z,STATE45
051B  FE 46       C        CP      46H
051D  CA 1734     C        JP      Z,STATE46
0520  FE 47       C        CP      47H
0522  CA 01CB     C        JP      Z,SCAN
0525  FE 48       C        CP      48H
0527  CA 01CB     C        JP      Z,SCAN
052A  FE 49       C        CP      49H
052C  CA 1745     C        JP      Z,STATE49
052F  FE 4A       C        CP      4AH
0531  CA 176F     C        JP      Z,STATE4A
0534  FE 4B       C        CP      4BH
0536  CA 01CB     C        JP      Z,SCAN
0539  FE 4C       C        CP      4CH
053B  CA 01CB     C        JP      Z,SCAN
053E  FE 50       C        CP      50H
0540  CA 01CB     C        JP      Z,SCAN
0543  FE 51       C        CP      51H
0545  CA 1399     C        JP      Z,STATE51
0548  FE 70       C        CP      70H
054A  CA 01CB     C        JP      Z,SCAN
054D  FE 71       C        CP      71H
054F  CA 17A4     C        JP      Z,STATE71
0552  FE 72       C        CP      72H
0554  CA 1856     C        JP      Z,STATE72
0557  FE 79       C        CP      79H
0559  CA 1B16     C        JP      Z,STATE79
055C  FE 7B       C        CP      7BH
055E  CA 01CB     C        JP      Z,SCAN
0561  FE 73       C        CP      73H
0563  CA 1931     C        JP      Z,STATE74
0566  FE 74       C        CP      74H
0568  CA 1931     C        JP      Z,STATE74
056B  FE 75       C        CP      75H
056D  CA 1A0B     C        JP      Z,STATE75
0570  FE 76       C        CP      76H
0572  CA 1B05     C        JP      Z,STATE76
0575  FE 77       C        CP      77H
0577  CA 01CB     C        JP      Z,SCAN
057A  FE 78       C        CP      78H
057C  CA 01CB     C        JP      Z,SCAN
057F  FE 7A       C        CP      7AH
0581  CA 1B3B     C        JP      Z,STATE7A
0584  FE 7C       C        CP      7CH
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```
0586  CA 01CB     C              JP      Z,SCAN
0589  FE 90       C              CP      90H
058B  CA 01CB     C              JP      Z,SCAN
058E  FE 91       C              CP      091H
0590  CA 186B     C              JP      Z,STATE91
0593  FE 92       C              CP      092H
0595  CA 01CB     C              JP      Z,SCAN
0598  FE 94       C              CP      094H
059A  CA 187A     C              JP      Z,STATE94
059D  FE 20       C              CP      20H
059F  CA 05CE     C              JP      Z,S20
05A2  FE 21       C              CP      21H
05A4  CA 05D1     C              JP      Z,S21
05A7  FE 22       C              CP      22H
05A9  CA 05D4     C              JP      Z,S22
05AC  FE 23       C              CP      23H
05AE  CA 05D7     C              JP      Z,S23
05B1  FE 24       C              CP      24H
05B3  CA 01CB     C              JP      Z,SCAN
05B6  FE 25       C              CP      25H
05B8  CA 01CB     C              JP      Z,SCAN
05BB  FE 26       C              CP      26H
05BD  CA 01CB     C              JP      Z,SCAN
05C0  FE 27       C              CP      27H
05C2  CA 01CB     C              JP      Z,SCAN
05C5  C3 05DA     C              JP      S00
05C8  C3 0DE8     C S6:          JP      STATE6
05CB  C3 0E6B     C S7:          JP      STATE7
05CE  C3 0FA8     C S20:         JP      STATE20
05D1  C3 1059     C S21:         JP      STATE21
05D4  C3 1111     C S22:         JP      STATE22
05D7  C3 1156     C S23:         JP      STATE23
05DA  C3 09E6     C S00:         JP      STATE00
05DD  CD 0A1F     C S0:          CALL    STATE0
05E0  1E 01       C              LD      E,01H
05E2  CD 2F20     C              CALL    STRSTATE
05E5  CD 0AA9     C NEWSTATE1:   CALL    STATE1
05E8  7A          C              LD      A,D
05E9  FE 16       C              CP      16H
05EB  CA 22A9     C              JP      Z,SPROTECT
05EE  FE 14       C              CP      14H
05F0  CA 0EFB     C              JP      Z,STATE11
05F3  FE 12       C              CP      12H
05F5  CC 0968     C              CALL    Z,CLRSET
05F8  CC 2ABB     C              CALL    Z,POLLCLR
05FB  CC 0968     C              CALL    Z,CLRSET
05FE  CC 2ABB     C              CALL    Z,POLLCLR
0601  CA 01CB     C              JP      Z,SCAN
0604  7A          C              LD      A,D
0605  26 00       C              LD      H,90H          ;WHEN RECEIVE NO. ALREADY
0607  78          C              LD      A,B            ;CHECK SELF STATION OR NOT
0609  C6 90       C              ADD     A,90H
060A  6F          C              LD      L,A
060B  5E          C              LD      E,(HL)
060C  3A 00FF     C              LD      A,(STATION)
060F  BB          C              CP      E              ;IF ZERO ,SELF STATION
```

```
0610  CA 0641    C                JP    Z,INTERNAL
0613  CD 0D01    C                CALL  STATE2
0616  CD 0D4E    C                CALL  STATE3
0619  CD 0D64    C NEWSTATE4:     CALL  STATE4
061C  3A 00F6    C                LD    A,(CSMA)
061F  FE 05       C                CP    05H
0621  CA 062C    C                JP    Z,SSIGOK
0624  1E 04       C                LD    E,04H
0626  CD 2F20    C                CALL  STRSTATE
0629  C3 01CB    C                JP    SCAN
062C  1E 13       C SSIGOK:        LD    E,13H
062E  CD 2F20    C                CALL  STRSTATE
0631  3E FF       C                LD    A,0FFH
0633  32 00F6    C                LD    (CSMA),A
0636  3A 00F6    C                LD    A,(CSMA)
0639  FE 01       C                CP    01H
063B  CA 01CB    C                JP    Z,SCAN
063E  C3 01CB    C                JP    SCAN
0641              C INTERNAL:      ;CLEAR DIAL TONE
0641  26 00       C                LD    H,00H
0643  2E 00       C                LD    L,00H
0645  2C          C SCN:           INC   L
0646  7E          C                LD    A,(HL)
0647  E6 0F       C                AND   0FH
0649  00          C                CP    0
064A  CA 0656    C                JP    Z,CLRD                ;CLEAR DIAL TONE
064D  7D          C                LD    A,L
064E  FE 1E       C                CP    1EH
0650  CA 0677    C                JP    Z,ESCAPE
0653  C3 0645    C                JP    SCN
0656  4D          C CLRD:          LD    C,L
0657  16 00       C                LD    D,00H
0659  CD 29F7    C                CALL  SWTB0
065C  50          C                LD    D,0
065D  CD 2A04    C                CALL  CSWTB0
0660  00          C                DEC   C
0661  16 00       C                LD    D,00H
0663  CD 29F7    C                CALL  SWTB0
0666  16 00       C                LD    D,00H
0668  CD 2A04    C                CALL  CSWTB0
066B  0C          C                INC   C
066C  0C          C                INC   C
066D  16 00       C                LD    D,00H
066F  CD 29F7    C                CALL  SWTB0
0672  16 00       C                LD    D,00H
0674  CD 2A04    C                CALL  CSWTB0
0677  1E 05       C ESCAPE:        LD    E,05H
0679  CD 2F20    C                CALL  STRSTATE
067C  CD 3115    C                CALL  RDELAY
067F  C3 01CB    C                JP    SCAN
                  C
0682  1E 0A       C                LD    E,0AH
0684  CD 2F20    C                CALL  STRSTATE
0687  C3 01CB    C                JP    SCAN
                  C          ;-----------------------------------------
                  C
```

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06BA                    C PROTOCOL:     ;SERVICE ON HOOK
06BA   26 00            C               LD      H,00H
06BC   2E 00            C               LD      L,00H
06BE   2C               C SCHLOOP:      INC     L
06BF   7E               C               LD      A,(HL)
06C0   E6 1F            C               AND     1FH
06C2   B8               C               CP      B
06C3   CA 06C9          C               JP      Z,BUSINESS      ;IF ZERO THIS DV. MUST BE CLEARED
06C6   C3 0748          C               JP      CHKT15
06C9   7E               C BUSINESS:     LD      A,(HL)
06CA   F6 7F            C               OR      7FH
06CC   FE 7F            C               CP      7FH
06CE   CA 06DF          C               JP      Z,INTERNA
06D1   4D               C               LD      C,L
06D2   16 00            C               LD      D,00H
06D4   CD 29F7          C               CALL    SWT00
06D7   16 FF            C               LD      D,0FFH
06D9   CD 2A04          C               CALL    CSWT00
06DC   C3 0748          C               JP      CHKT15
06DF   4D               C INTERNA:      LD      C,L
06E0   16 00            C               LD      D,00H
06E2   CD 29F7          C               CALL    SWT00
06E5   16 FF            C               LD      D,0FFH
06E7   CD 2A04          C               CALL    CSWT00
06EA   2D               C               DEC     L
06EB   4D               C               LD      C,L
06EC   7E               C               LD      A,(HL)
06ED   2C               C               INC     L               ;CORRECT TS.
06EE   E6 0F            C               AND     0FH
06F0   FE 0F            C               CP      0FH
06F2   CA 06FC          C               JP      Z,FORMER        ;JUMP TO CLEAR FORMER TS.
06F5   FE 0E            C               CP      0EH
06F7   CA 06FC          C               JP      Z,FORMER
06FA   FE 0D            C               CP      0DH
06FC   CA 06FC          C               JP      Z,FORMER
06FF   FE 0C            C               CP      0CH
0701   CA 0707          C               JP      Z,FORMERC
0704   C3 0748          C               JP      CHKT15
0707   16 00            C FORMERC:      LD      D,00H
0709   CD 29F7          C               CALL    SWT00
070C   16 FF            C               LD      D,0FFH
070E   CD 2A04          C               CALL    CSWT00
0711   58               C               LD      D,9
0712   06 0C            C               LD      B,0CH
0714   1E FF            C               LD      E,0FFH
0716   CD 2F20          C               CALL    STATSTATE
                        C ;STORE DV #C TO OFFRELLAY
0719   CD 2FBC          C               CALL    OFFRELAY
071C   42               C               LD      B,D
071D   0C               C               INC     C
071E   0C               C               INC     C
071F   69               C               LD      L,C
0720   7E               C               LD      A,(HL)
0721   2D               C               DEC     L
0722   E6 0F            C               AND     0FH
0724   FE 0C            C               CP      0CH
```

```
06F6  CA 0724     C              JP      Z,LATTER
06F9  C3 0740     C              JP      CHKT15
                  C
06FC  16 00       C FORMER:      LD      D,00H
06FE  CD 29F7     C              CALL    SWT00
0701  16 FF       C              LD      D,0FFH
0703  CD 2A04     C              CALL    CSWT00
0706  0C          C              INC     C
0707  0C          C              INC     C
0708  69          C              LD      L,C
0709  7E          C              LD      A,(HL)
070A  2D          C              DEC     L               ;CORRECT TS.
070B  E6 0F       C              AND     0FH
070D  FE 0F       C              CP      0FH
070F  CA 0724     C              JP      Z,LATTER
0712  FE 0E       C              CP      0EH
0714  CA 0724     C              JP      Z,LATTER
0717  FE 0D       C              CP      0DH
0719  CA 0724     C              JP      Z,LATTER
071C  FE 0B       C              CP      0BH
071E  CA 0724     C              JP      Z,LATTER
0721  C3 0740     C              JP      CHKT15
0724  16 00       C LATTER:      LD      D,00H
0726  CD 29F7     C              CALL    SWT00
0729  16 FF       C              LD      D,0FFH
072B  CD 2A04     C              CALL    CSWT00
072E  0C          C              INC     C       ;CLEAR TS. TO USE TRANSFER .
072F  16 FF       C              LD      D,0FFH
0731  CD 2A04     C              CALL    CSWT00
0734  0C          C              INC     C
0735  16 FF       C              LD      D,0FFH
0737  CD 2A04     C              CALL    CSWT00
073A  0C          C              INC     C
073B  16 FF       C              LD      D,0FFH
073D  CD 2A04     C              CALL    CSWT00
0740  7D          C CHKT15:      LD      A,L
0741  FE 0F       C              CP      0FH
0743  CA 074F     C              JP      Z,CHKLOOP
0746  7D          C              LD      A,L
0747  FE 1E       C              CP      1EH                     ;LAST TS.
0749  CA 0753     C              JP      Z,FIN1
074C  C3 068E     C              JP      SCNLOOP
074F  2C          C CHKLOOP:     INC     L
0750  C3 068E     C              JP      SCNLOOP
                  C              ;*************************
                  C              ;SERVICE THIS DV. IS INTERNAL DESTINATION DV. OR NOT
0753  26 00       C FIN1:        LD      H,00H
0755  2E B5       C              LD      L,0B5H
0757  2C          C SCNLOOP1:    INC     L
0759  7D          C              LD      A,L
0759  FE D4       C              CP      0D4H
075B  CA 0782     C              JP      Z,FIN
075E  7E          C              LD      A,(HL)
075F  B8          C              CP      B
0760  CA 0766     C              JP      Z,CHKST
0763  C3 0757     C              JP      SCNLOOP1
```

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0766    7D          C CHKST:        LD      A,L
0767    D6 1E       C               SUB     1EH
0769    6F          C               LD      L,A             ;FIND ST.
076A    5E          C               LD      E,(HL)
076B    3A 80FF     C               LD      A,(STATION)
076E    BB          C               CP      E
076F    CA 0775     C               JP      Z,SDESIDLE
0772    C3 0782     C               JP      FIN
0775    1E F5       C SDESIDLE:     LD      E,0F5H
0777    CD 2F28     C               CALL    STRSTATE
077A    CD 2F31     C               CALL    RING
077D    00          C               NOP
077E    00          C               NOP
077F    CD 2F58     C               CALL    CRING
0782    26 00       C FIN:          LD      H,00H
                    C ;TO CLEAR STAT & DES NO.
0784    78          C               LD      A,B
0785    C6 98       C               ADD     A,098H
0787    6F          C               LD      L,A
0788    3E FF       C               LD      A,0FFH
078A    77          C               LD      (HL),A
078B    78          C               LD      A,B
078C    C6 B6       C               ADD     A,0B6H
078E    6F          C               LD      L,A
078F    3E FF       C               LD      A,0FFH
0791    77          C               LD      (HL),A
0792    26 40       C               LD      H,40H
0794    78          C               LD      A,B
0795    C6 5C       C               ADD     A,5CH
0797    6F          C               LD      L,A
0798    3E FF       C               LD      A,0FFH
079A    77          C               LD      (HL),A
079B    CD 0968     C               CALL    CLRSET
079E    CD 2ABB     C               CALL    POLLCLR
07A1    C3 01CB     C               JP      SCAN
                    C
                    C
07A4    78          C STRDIALER:    LD      A,B
07A5    EE F0       C               XOR     0F0H
07A7    32 80FE     C               LD      (DIALER),A
07AA    78          C               LD      A,B
07AB    32 80FD     C               LD      (DIALER1),A
07AE    C3 01CB     C               JP      SCAN
07B1    1E 0D       C CONT:         LD      E,0DH           ;THE DESTINATION TEL.
                    C               ;IS NOT ALREADY SO SEND BUSY TONE
07B3    CD 38C3     C               CALL    RTSUSED
07B6    CD 38CB     C               CALL    INCOMM
07B9    C3 01CB     C               JP      SCAN
                    C
                    C       ;++++++++++++++++++++++++++++++++++++++++++++
                    C
                    C       ;::::::::::::::::::::::::::::::::::::::::::::
07BC                C MSTATE:       ;
07BC    78          C               LD      A,B             ;DISPLAY DV. BE POLLED
07BD    D3 30       C               OUT     (30H),A         ;AT PORT 30H
07BF    FE 11       C               CP      11H
```

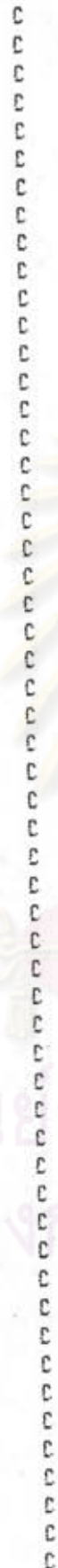
```
07C1  CA 07D1   C              JP    Z,STAT1
07C4  FE 13     C              CP    13H
07C6  CA 07D1   C              JP    Z,STAT1
07C9  FE 14     C              CP    14H
07CB  CA 07D1   C              JP    Z,STAT1
07CE  C3 023B   C              JP    MSCAN
07D1  CD 2FE9   C STAT1:       CALL  CHECKDTR
07D4  3A 00F7   C              LD    A,(DTR)
07D7  FE 99     C              CP    99H
07D9  CA 084D   C              JP    Z,LOOKTABLE     ;IF ZERO DTR NOT ACTIVE
07DC  CD 3023   C              CALL  READMSTATE
07DF  FE FF     C              CP    0FFH
07E1  CA 0832   C              JP    Z,M0
07E4  FE 00     C              CP    00H
07E6  CA 0832   C              JP    Z,M0
07E9  FE 01     C              CP    01H
07EB  CA 0835   C              JP    Z,M1
07EE  FE 02     C              CP    02H
07F0  CA 083B   C              JP    Z,M2
07F3  FE 03     C              CP    03H
07F5  CA 083B   C              JP    Z,M3
07F8  FE 05     C              CP    05H
07FA  CA 083E   C              JP    Z,M5
07FD  FE 06     C              CP    06H
07FF  CA 0841   C              JP    Z,M6
0802  FE 07     C              CP    07H
0804  CA 0844   C              JP    Z,M7
0807  FE 08     C              CP    08H
0809  CA 0847   C              JP    Z,M8
080C  FE 09     C              CP    09H
080E  CC 096B   C              CALL  Z,CLRSET
0811  CC 2ABB   C              CALL  Z,POLLCLR
0814  CA 023B   C              JP    Z,MSCAN
0817  FE 10     C              CP    10H
0819  CA 084A   C              JP    Z,M10
081C  FE 11     C              CP    11H
081E  CC 096B   C              CALL  Z,CLRSET
0821  CC 2ABB   C              CALL  Z,POLLCLR
0824  CA 023B   C              JP    Z,MSCAN
0827  FE 0A     C              CP    0AH
0829  CC 096B   C              CALL  Z,CLRSET
082C  CC 2ABB   C              CALL  Z,POLLCLR
082F  CA 023B   C              JP    Z,MSCAN
0832  C3 22CC   C M0:          JP    MSTATE0
0835  C3 22EC   C M1:          JP    MSTATE1
0838  C3 2309   C M2:          JP    MSTATE2
083B  C3 2395   C M3:          JP    MSTATE3
083E  C3 23D3   C M5:          JP    MSTATE5
0841  C3 23F5   C M6:          JP    MSTATE6
0844  C3 2492   C M7:          JP    MSTATE7
0847  C3 24D4   C M8:          JP    MSTATE8
084A  C3 2E05   C M10:         JP    MSTATE10
084D  26 00     C LOOKTABLE:   LD    H,00H
084F  2E 00     C              LD    L,00H
0851  2C        C .G:          INC   L
0852  7D        C              LD    A,L
```

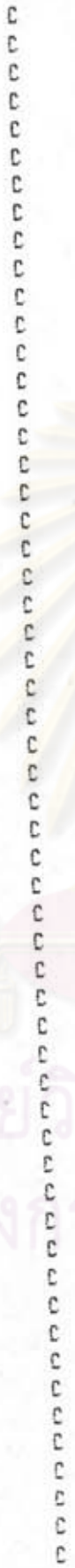
```
0853  FE 00       C                   CP      00H
0855  CA 0851     C                   JP      Z,.G
0859  FE 10       C                   CP      10H
085A  CA 0851     C                   JP      Z,.G
085D  FE 20       C                   CP      20H
085F  CC 309A     C                   CALL    Z,INITHS
0862  CC 096B     C                   CALL    Z,CLRSET
0865  CC 2AB9     C                   CALL    Z,POLLCLR
0868  7D          C                   LD      A,L
0869  FE 20       C                   CP      20H
086B  CA 023B     C                   JP      Z,MSCAN
086E  7E          C                   LD      A,(HL)
086F  E6 1F       C                   AND     1FH
0871  B8          C                   CP      B
0872  C2 0851     C                   JP      NZ,.G
0875  7E          C                   LD      A,(HL)
0876  F6 7F       C                   OR      7FH
0878  FE 7F       C                   CP      7FH
087A  CA 0890     C                   JP      Z,CLRMINT
                  C ;IF ZERO IS INTERNAL COMM.
087D  4D          C                   LD      C,L
087E  16 00       C                   LD      D,00H
0880  CD 29F7     C                   CALL    SWTB0
0883  16 FF       C                   LD      D,0FFH
0885  CD 2AB4     C                   CALL    CSWTB0
0888  1E 00       C                   LD      E,00H           ; INITIAL THIS DV. STATE
088A  CD 3028     C                   CALL    STRMSTATE
088D  C3 023B     C                   JP      MSCAN
0890  4D          C CLRMINT:          LD      C,L
0891  0D          C                   DEC     C
0892  16 00       C                   LD      D,00H
0894  CD 29F7     C                   CALL    SWTB0
0897  16 FF       C                   LD      D,0FFH
0899  CD 2AB4     C                   CALL    CSWTB0
089C  0C          C                   INC     C
089D  16 00       C                   LD      D,00H
089F  CD 29F7     C                   CALL    SWTB0
08A2  16 FF       C                   LD      D,0FFH
08A4  CD 2AB4     C                   CALL    CSWTB0
08A7  0C          C                   INC     C
08A8  16 00       C                   LD      D,00H
08AA  CD 29F7     C                   CALL    SWTB0
08AD  16 FF       C                   LD      D,0FFH
08AF  CD 2AB4     C                   CALL    CSWTB0
                  C ;CLEAR 3TS INTERNAL
08B2  58          C                   LD      D,B;SAVE DV.
08B3  26 98       C                   LD      H,98H
08B5  78          C                   LD      A,B
08B6  C6 B6       C                   ADD     A,0B6H
08B8  6F          C                   LD      L,A
08B9  5E          C                   LD      E,(HL)
08BA  43          C                   LD      B,E
08BB  1E 00       C                   LD      E,00H
08BD  CD 3028     C                   CALL    STRMSTATE
08C0  42          C                   LD      B,D
                  C ;RETURN DV.
```

```
08C1    1E 08      C                 LD      E,08H
08C3    CD 302B    C                 CALL    STRMSTATE
08C6    C3 023B    C                 JP      MSCAN
                   C         ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
                   C
                   C
                   C         ;**********************************************
08C9               C OUTSIDESTATE:   ;THIS ROUTINE SERVICES TELEPHONE DEVICE TO
                   C                 ;COMMUNICATE WITH PSTN
08C9    CD 2F28    C                 CALL    READSTATE
08CC    FE F8      C                 CP      0F8H
08CE    CA 2754    C                 JP      Z,OUT7
08D1    FE F9      C                 CP      0F9H
08D3    CA 2764    C                 JP      Z,OUT8
08D6    FE FA      C                 CP      0FAH
08D8    CA 2770    C                 JP      Z,OUT9
08DB    FE 01      C                 CP      01H
08DD    CA 2784    C                 JP      Z,OUT10
08E0    FE 0D      C                 CP      0DH
08E2    CA 2754    C                 JP      Z,OUT7
08E5    FE 0E      C                 CP      0EH
08E7    CA 2754    C                 JP      Z,OUT7
08EA    C3 08ED    C                 JP      OUTSIDE0
08ED    C3 2636    C OUTSIDE0:       JP      OUT0
08F0    C3 2705    C OUTSIDE1:       JP      OUT1
                   C         ;**********************************************
                   C
                   C
                   C         ;$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
                   C
08F3    CD 251B    C RSTATE:         CALL    RSTATE1
08F6    1E 0B      C                 LD      E,0BH
08F8    CD 2F20    C                 CALL    STRSTATE
08FB    CD 0968    C                 CALL    CLRSET
08FE    CD 2ABB    C                 CALL    POLLCLR
0901    3A 00F4    C                 LD      A,(OFFHOOK)
0904    FE 11      C                 CP      11H
0906    CA 01CB    C                 JP      Z,SCAN
0909    CD 252A    C NEXTSTATEA:     CALL    RSTATE2
090C    CD 252E    C                 CALL    RSTATE3
090F    1E 0A      C                 LD      E,0AH
0911    CD 2F20    C                 CALL    STRSTATE
0914    C3 01CB    C                 JP      SCAN
                   C         ;$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
                   C
                   C         ;???????????????????????????????????????????????
0917               C EXRSTATE:       ;FROM STATION TO STATION
0917    3E FF      C                 LD      A,0FFH
0919    32 00F6    C                 LD      (CSMA),A              ;CLEAR STATUS CSMA
091C    CD 2537    C                 CALL    EXRSTATE1
091F    1E 0C      C                 LD      E,0CH
0921    CD 2F20    C                 CALL    STRSTATE
0924    CD 0968    C                 CALL    CLRSET
0927    CD 2ABB    C                 CALL    POLLCLR
092A    C3 01CB    C                 JP      SCAN
092D    CD 254D    C NEXTSTATEC:     CALL    EXRSTATE2
```

```
0930  CD 2563    C              CALL    EXRSTATE3
0933  16 FF      C              LD      D,0FFH
0935  CD 2951    C              CALL    STRTIMER
0938  1E 70      C              LD      E,70H
093A  CD 2F2B    C              CALL    STRSTATE
093D  CD 0968    C              CALL    CLRSET
0940  CD 2ABB    C              CALL    POLLCLR
0943  C3 01CB    C              JP      SCAN
                 C       ;??????????????????????????????????????????
                 C
                 C       ;&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&
                 C
0946             C EXRMSTATE:   ;SHOW STATUS DATA DEVICE AS RECEIVER
0946  3E FF      C              LD      A,0FFH
0948  32 00F6    C              LD      (CSMA),A        ;CLEAR STATUS CSMA
                 C
094B  C3 2571    C              JP      EXRMS1
094E  C3 2593    C EXRM2:       JP      EXRMS2
0951  C3 25C2    C EXRM4:       JP      EXRMS4
0954  C3 0238    C              JP      MSCAN
                 C
                 C       ;&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&&
                 C
                 C       ;@@@@@@@@@@@@@@@@@@@@@@@@@@
                 C
0957             C COMDSTATE:   ;
0957  3E FF      C              LD      A,0FFH
0959  32 00F6    C              LD      (CSMA),A
095C  CD 25CD    C              CALL    COMDSTATE1
095F  CD 0968    C              CALL    CLRSET
0962  CD 2AB9    C              CALL    POLLCLR
0965  C3 01CB    C              JP      SCAN
                 C
                 C       ;@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
                 C
0968  3E 0D      C CLRSET:      LD      A,0DH           ;SET RST6..5
096A  30         C              DB      SIM
096B  FB         C              EI
096C  3E D0      C              LD      A,0D0H
096E  D3 01      C              OUT     (01H),A
0970  3E 00      C              LD      A,00H
0972  EE 00      C              XOR     00H                     ;X SHOULD BE  1
0974  D3 42      C              OUT     (42H),A         ;MAKE SET = 0
0976  3E D8      C              LD      A,0D8H
0978  D3 01      C              OUT     (01H),A
097A  3E 10      C              LD      A,10H
097C  3D         C .W:          DEC     A
097D  FE 00      C              CP      00H
097F  C2 097C    C              JP      NZ,.W
0982  C9         C              RET
                 C
0983             C CLRSETF:     ;
0983  3E 0D      C              LD      A,0DH           ;SET RST6.5
0985  30         C              DB      SIM
0986  FB         C              EI
0987  3E D0      C              LD      A,0D0H
```

```
0989  D3 81      C               OUT     (81H),A
098B  3E 0F      C               LD      A,0FH
098D  EE 80      C               XOR     80H             ;X SHOULD BE 1
098F  D3 42      C               OUT     (42H),A
0991  3E D0      C               LD      A,0D0H
0993  D3 81      C               OUT     (81H),A
0995  3E 1B      C               LD      A,1BH
0997  3D         C .V:           DEC     A
0998  FE 00      C               CP      00H
099A  C2 0997    C               JP      NZ,.V
099D  C9         C               RET
                 C
099E             C OFH:          ;CHECK  OFH
099E  F3         C               DI
099F  CD 2B24    C               CALL    SETCLR
09A2  CD 2AA4    C               CALL    POLLSETDV
09A5  DB 82      C               IN      A,(82H)             ;CHECK OFH 3 TIMES
09A7  E6 0F      C               AND     0FH
09A9  FE 0F      C               CP      0FH
09AB  CA 09D5    C               JP      Z,NOOFH
09AE  DB 82      C               IN      A,(82H)
09B0  E6 0F      C               AND     0FH
09B2  FE 0F      C               CP      0FH
09B4  CA 09D5    C               JP      Z,NOOFH
09B7  FE 0D      C               CP      0DH
09B9  CA 09D5    C               JP      Z,NOOFH
                 C ;TO PROTECT IF DTR INTERFERE
09BC  FE 0E      C               CP      0EH
09BE  CA 09C4    C               JP      Z,OFHSURE
09C1  C3 09D5    C               JP      NOOFH
                 C
09C4  3E 22      C OFHSURE:      LD      A,22H
09C6  32 00F4    C               LD      (OFFHOOK),A
09C9  78         C               LD      A,B             ;TO SHOW DV2 STATUS
09CA  07         C               RLCA
09CB  07         C               RLCA
09CC  07         C               RLCA
09CD  07         C               RLCA
09CE  E6 F0      C               AND     0F0H
09D0  C6 02      C               ADD     A,02H
09D2  D3 38      C               OUT     (38H),A         ;SEND DV2 + 02H AT PORT 38H
09D4  C9         C               RET
09D5  3E 11      C NOOFH:        LD      A,11H
09D7  32 00F4    C               LD      (OFFHOOK),A
09DA  78         C               LD      A,B             ;TO SHOW DV2 STATUS
09DB  07         C               RLCA
09DC  07         C               RLCA
09DD  07         C               RLCA
09DE  07         C               RLCA
09DF  E6 F0      C               AND     0F0H
09E1  C6 01      C               ADD     A,01H
09E3  D3 38      C               OUT     (38H),A         ;SEND DV2 + 01H AT PORT 38H
09E5  C9         C               RET
                 C
                 C ;*************** END OF FILE NO. 1
                 C
```





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                        C
                        C              INCLUDE B:T022.MAC
                        C ;********** START OF FILE NO. 2
                        C
09E6                    C STATE00:          ;CHECK DECODER
09E6     CD 28DA        C                   CALL    FGOFDEC
09E9     7B             C                   LD      A,E
09EA     FE 01          C                   CP      01H
09EC     CA 09F9        C                   JP      Z,DECG1
09EF     FE 02          C                   CP      02H
09F1     CA 09FE        C                   JP      Z,DECG2
09F4     FE 03          C                   CP      03H
09F6     CA 0A03        C                   JP      Z,DECG3
09F9     16 4F          C DECG1:            LD      D,4FH
09FB     C3 0A05        C                   JP      NEXTS00
09FE     16 4B          C DECG2:            LD      D,4BH
0A00     C3 0A05        C                   JP      NEXTS00
0A03     16 4A          C DECG3:            LD      D,4AH
0A05     CD 2A0C        C NEXTS00:          CALL    FDSWTB0
0A08     7B             C                   LD      A,E
0A09     FE FF          C                   CP      0FFH
0A0B     CA 0A11        C                   JP      Z,INQUEUE
0A0E     C3 05DD        C                   JP      S0
0A11     1E A0          C INQUEUE:          LD      E,0A0H
0A13     CD 2F28        C                   CALL    STRSTATE
0A16     CD 0968        C                   CALL    CLRSET
0A19     CD 2AB8        C                   CALL    POLLCLR
0A1C     C3 01C9        C                   JP      SCAN
                        C
0A1F                    C STATE0:           ;SEND DIAL TONE
                        C                   ;INP DV1 = B
                        C                   ;    TS1 TO SEND = C
                        C                   ;    DATA IN SWITCHING TABLE = D
                        C                   ;SET DIALER1 STATE
                        C           ;CONCEPT WRITE SWTB IN TS1 THAT B RECEIVE ,TONE GEN. TRANSMIT
                        C
                        C
                        C                   ;FIND TS1 TO COMMUNICATE BY READ RAM
                        C                   ;
```

```
0A1F    3E 0D      C              LD     A,0DH        ;SET RST6.5
0A21    30         C              DB     SIM
0A22    FB         C              EI
0A23    CD 0174    C              CALL   READRAM
0A26    79         C              LD     A,C
0A27    FE 0D      C              CP     0DH
0A29    CA 0A34    C              JP     Z,STS17
0A2C    FE 20      C              CP     20H
0A2E    CA 01CB    C              JP     Z,SCAN
0A31    C3 0A36    C              JP     STR1
0A34    0E 11      C STS17:       LD     C,11H
0A36    16 2F      C STR1:        LD     D,2FH        ;SEND - RECEIVE SIGNAL
0A38    CD 29F7    C              CALL   SWTB0
0A3B    CD 2A04    C              CALL   CSWTB0
0A3E    CD 0174    C              CALL   READRAM      ;FOR DEVICE
0A41    79         C              LD     A,C
0A42    FE 0D      C              CP     0DH
0A44    CA 0A4F    C              JP     Z,STS18
0A47    FE 20      C              CP     20H
0A49    CA 01CB    C              JP     Z,SCAN
0A4C    C3 0A51    C              JP     STR2
0A4F    0E 12      C STS18:       LD     C,12H
0A51    CD 2EEE    C STR2:        CALL   COPYTS
0A54    78         C              LD     A,B          ;INPUT NO. DEVICE
0A55    EE 60      C              XOR    60H          ;FOR DIALER SEND - RECEIVE SIGNAL
0A57    57         C              LD     D,A
0A58    CD 29F7    C              CALL   SWTB0
0A5B    CD 2A04    C              CALL   CSWTB0
0A5E    CD 0174    C              CALL   READRAM
0A61    79         C              LD     A,C
0A62    FE 0D      C              CP     0DH
0A64    CA 0A6F    C              JP     Z,STS19
0A67    FE 20      C              CP     20H
0A69    CA 01CB    C              JP     Z,SCAN
0A6C    C3 0A71    C              JP     STR3
0A6F    0E 13      C STS19:       LD     C,13H
0A71    CD 29DA    C STR3:        CALL   FOOFDEC
0A74    7B         C              LD     A,E
0A75    FE 01      C              CP     01H
0A77    CA 0A84    C              JP     Z,DECG11
0A7A    FE 02      C              CP     02H
0A7C    CA 0A89    C              JP     Z,DECG22
0A7F    FE 03      C              CP     03H
0A81    CA 0A8E    C              JP     Z,DECG33
0A84    16 4F      C DECG11:      LD     D,4FH
0A86    C3 0A90    C              JP     NEXTS0
0A89    16 4B      C DECG22:      LD     D,4BH
0A8B    C3 0A90    C              JP     NEXTS0
0A8E    16 4A      C DECG33:      LD     D,4AH
0A90    CD 29F7    C NEXTS0:      CALL   SWTB0
0A93    CD 2A04    C              CALL   CSWTB0
0A96    0C         C              INC    C
0A97    16 00      C              LD     D,00H
0A99    CD 2A04    C              CALL   CSWTB0
0A9C    0C         C              INC    C
0A9D    16 00      C              LD     D,00H
```

```
0A9F  CD 2A04    C                CALL    CSWTB0
0AA2  0C         C                INC     C
0AA3  16 00      C                LD      D,00H
0AA5  CD 2A04    C                CALL    CSWTB0
0AA8  C9         C                RET
                 C
0AA9             C STATE1:        ;POLLING DVJ
                 C                ;RECEIVE TELEPHONE NO.
                 C                ;POLLING DECODER
0AA9  3E 0D      C                LD      A,0DH           ;SET RST6.5
0AAB  30         C                DB      SIM
0AAC  FB         C                EI
0AAD  CD 0968    C                CALL    CLRSET
0AB0  CD 2ABB    C                CALL    POLLCLR         ;CLEAR POLL THIS DV
                 C                                        ;BEFORE RECEIVE NO.
0AB3  CD 28DA    C                CALL    F60FDEC
0AB6  7B         C                LD      A,E
0AB7  FE 01      C                CP      01H
0AB9  CA 0AC6    C                JP      Z,D1
0ABC  FE 02      C                CP      02H
0ABE  CA 0ADB    C                JP      Z,D2
0AC1  FE 03      C                CP      03H
0AC3  CA 0AE4    C                JP      Z,D3
0AC6  CD 283E    C D1:            CALL    SETCLRF
0AC9  3E D0      C                LD      A,0D0H
0ACB  D3 81      C                OUT     (81H),A
0ACD  3E 0F      C                LD      A,0FH           ;POLLING DVJF
0ACF  EE C0      C                XOR     0C0H
0AD1  57         C                LD      D,A
0AD2  D3 42      C                OUT     (42H),A
0AD4  3E D0      C                LD      A,0D0H
0AD6  D3 81      C                OUT     (81H),A
0AD8  C3 0AEA    C                JP      RACK
0ADB  CD 2955    C D2:            CALL    SETCLR0
0ADE  CD 2987    C                CALL    POLLSET0
0AE1  C3 0AEA    C                JP      RACK
0AE4  CD 296C    C D3:            CALL    SETCLRA
0AE7  CD 2996    C                CALL    POLLSETA
0AEA  3E 04      C RACK:          LD      A,04H           ;WAIT FOR ACK LOW
0AEC  3D         C .5:            DEC     A
0AED  FE 00      C                CP      00H
0AEF  C2 0AEC    C                JP      NZ,.5
                 C        ;NO NECCESSARY TO CHECK ACK FROM DECODER
                 C        ;       DB      RIM
                 C        ;       OR      7FH
                 C        ;       CP      7FH
                 C        ;       JP      NZ,AGAIN
                 C        ;NO NECCESSARY TO CHECK ACK FROM DECODER
0AF2  3E 0E      C                LD      A,0EH
0AF4  3D         C .11:           DEC     A
0AF5  FE 00      C                CP      00H
0AF7  C2 0AF4    C                JP      NZ,.11
0AFA  DB 82      C RAGAIN:        IN      A,(82H)
0AFC  57         C                LD      D,A
0AFD  E6 10      C                AND     10H
0AFF  FE 10      C                CP      10H
```

```
0B01  CA 0BFE    C                 JP    Z,GO
0B04  26 00      C                 LD    H,00H
0B06  78         C                 LD    A,B
0B07  C6 90      C                 ADD   A,90H
0B09  6F         C                 LD    L,A
0B0A  7E         C                 LD    A,(HL)
0B0B  FE FF      C                 CP    0FFH
0B0D  CA 0B13    C                 JP    Z,STR1NO.
0B10  C3 0B55    C                 JP    NEXTDECODE
0B13  7A         C STR1NO.:        LD    A,D
0B14  FE 02      C                 CP    02H
0B16  CA 0B26    C                 JP    Z,CON1
0B19  FE 05      C                 CP    05H
0B1B  CA 0B26    C                 JP    Z,CON1
0B1E  FE 08      C                 CP    08H
0B20  CA 0CA2    C                 JP    Z,GOO
0B23  C3 0CD3    C                 JP    GO00
0B26  77         C CON1:           LD    (HL),A
0B27  26 00      C                 LD    H,00H          ;CLEAR DIAL TONE
0B29  2E 00      C                 LD    L,00H
0B2B  2C         C SCLOOP:         INC   L
0B2C  7D         C                 LD    A,L
0B2D  FE 10      C                 CP    10H
0B2F  CA 0B3E    C                 JP    Z,LAS
0B32  FE 1E      C                 CP    1EH
0B34  CA 0B52    C                 JP    Z,LAS1
0B37  7E         C                 LD    A,(HL)
0B38  E6 0F      C                 AND   0FH
0B3A  B8         C                 CP    B
0B3B  CA 0B41    C                 JP    Z,CBUSINESS
0B3E  C3 0B2B    C LAS:            JP    SCLOOP
0B41  4D         C CBUSINESS:      LD    C,L
0B42  78         C                 LD    A,B
0B43  C6 20      C                 ADD   A,20H
0B45  57         C                 LD    D,A
0B46  CD 29F7    C                 CALL  SWTB0
0B49  0D         C                 DEC   C
0B4A  16 00      C                 LD    D,00H
0B4C  CD 29F7    C                 CALL  SWTB0
0B4F  CD 3115    C                 CALL  RDELAY
0B52  C3 0C3C    C LAS1:           JP    STRS31
0B55  26 40      C NEXTDECODE:     LD    H,40H
0B57  78         C                 LD    A,B
0B58  C6 5C      C                 ADD   A,5CH
0B5A  6F         C                 LD    L,A
0B5B  7E         C                 LD    A,(HL)
0B5C  FE FF      C                 CP    0FFH
0B5E  CA 0B64    C                 JP    Z,STR2NO.
0B61  C3 0B7C    C                 JP    CHK3NO.
0B64  CD 2F28    C STR2NO.:        CALL  READSTATE
0B67  FE 32      C                 CP    32H
0B69  CA 0B6F    C                 JP    Z,NDEC2NO.
0B6C  C3 0C3C    C                 JP    STRS31
0B6F  26 40      C NDEC2NO.:       LD    H,40H
0B71  78         C                 LD    A,B
0B72  C6 5C      C                 ADD   A,5CH
```

```
0B74  6F          C               LD      L,A
0B75  72          C               LD      (HL),D
0B76  CD 3115     C               CALL    RDELAY
0B79  C3 0C3C     C               JP      STRS31
0B7C  CD 2F28     C CHK3ND.:      CALL    READSTATE
0B7F  FE 32       C               CP      32H
0B81  CA 0B87     C               JP      Z,NDEC3ND.
0B84  C3 0C3C     C               JP      STRS31
0B87  26 80       C NDEC3ND.:     LD      H,80H
0B89  78          C               LD      A,B
0B8A  C6 B6       C               ADD     A,0B6H
0B8C  6F          C               LD      L,A
0B8D  72          C               LD      (HL),D
0B8E  26 40       C               LD      H,40H
0B90  78          C               LD      A,B
0B91  C6 5C       C               ADD     A,5CH
0B93  6F          C               LD      L,A
0B94  7E          C               LD      A,(HL)
0B95  FE 0A       C               CP      0AH
0B97  CA 0BAC     C               JP      Z,INS0
                  C ;ND. 0 DTMF IS 0AH
0B9A  E6 02       C               AND     02H
0B9C  CA 0CD3     C               JP      Z,GOOO
                  C ;IF ZERO BIT1= 1
0B9F  E6 04       C               AND     04H
0BA1  CA 0CD3     C               JP      Z,GOOO
                  C ;IF ZERO BIT2 = 1
0BA4  E6 08       C               AND     08H
0BA6  CA 0CD3     C               JP      Z,GOOO
                  C ;IF ZERO BIT3 = 1
0BA9  C3 0BB5     C               JP      JUMP0
0BAC  26 40       C INS0:         LD      H,40H
0BAE  78          C               LD      A,B
0BAF  C6 5C       C               ADD     A,5CH
0BB1  6F          C               LD      L,A
0BB2  3E 00       C               LD      A,00H
0BB4  77          C               LD      (HL),A
0BB5  07          C JUMP0:        RLCA
0BB6  07          C               RLCA
0BB7  07          C               RLCA
0BB8  07          C               RLCA
0BB9  E6 0F       C               AND     0FH
0BBB  AA          C               XOR     D
0BBC  CD 27F8     C               CALL    CV16BASE
0BBF  26 80       C               LD      H,80H
0BC1  78          C               LD      A,B
0BC2  C6 B6       C               ADD     A,0B6H
0BC4  6F          C               LD      L,A
0BC5  72          C               LD      (HL),D
                  C ;LOAD DATA BACK TO 0B6H
0BC6  26 80       C               LD      H,80H
0BC8  78          C               LD      A,B
0BC9  C6 98       C               ADD     A,98H
0BCB  6F          C               LD      L,A
0BCC  5E          C               LD      E,(HL)
0BCD  CD 28DA     C               CALL    FGOFDEC
```

```
0BD0  7B          C          LD      A,E
0BD1  FE 01       C          CP      01H
0BD3  CA 0BEB     C          JP      Z,D11
0BD6  FE 02       C          CP      02H
0BD8  CA 0BE9     C          JP      Z,D12

0BDB  FE 03       C          CP      03H
0BDD  CA 0BF2     C          JP      Z,D13
0BEB  CD 0983     C D11:     CALL    CLRSETF
0BE3  CD 2AD5     C          CALL    POLLCLRF
0BE6  C3 0BF8     C          JP      NE1
0BE9  CD 29A5     C D12:     CALL    CLRSETB
0BEC  CD 2AEA     C          CALL    POLLCLRB
0BEF  C3 0BF8     C          JP      NE1
0BF2  CD 29C0     C D13:     CALL    CLRSETA
0BF5  CD 2AFF     C          CALL    POLLCLRA
0BF8  00          C NE1:     NOP
0BF9  00          C          NOP
0BFA  C9          C          RET
                  C
0BFB  32 0BF9     C SAVEHOOK:LD      (DECODE0),A
0BFE              C GO:      ;
0BFE  FE 00       C          CP      00H
0C00  CA 0CA2     C          JP      Z,G00
0C03  CD 2F2B     C          CALL    READSTATE
0C06  FE 31       C          CP      31H
0C08  CA 0C6F     C          JP      Z,STRS32
0C0B  C3 0C0E     C          JP      G0
0C0E  CD 29DA     C G0:      CALL    FGOFDEC
0C11  7B          C          LD      A,E
0C12  FE 01       C          CP      01H
0C14  CA 0C21     C          JP      Z,D21
0C17  FE 02       C          CP      02H
0C19  CA 0C2A     C          JP      Z,D22
0C1C  FE 03       C          CP      03H
0C1E  CA 0C33     C          JP      Z,D23
0C21  CD 0983     C D21:     CALL    CLRSETF
0C24  CD 2AD5     C          CALL    POLLCLRF
0C27  C3 0C39     C          JP      NE2
0C2A  CD 29A5     C D22:     CALL    CLRSETB
0C2D  CD 2AEA     C          CALL    POLLCLRB
0C30  C3 0C39     C          JP      NE2
0C33  CD 29C0     C D23:     CALL    CLRSETA
0C36  CD 2AFF     C          CALL    POLLCLRA
0C39  16 12       C NE2:     LD      D,12H
0C3B  C9          C          RET
                  C
0C3C  1E 31       C STRS31:  LD      E,31H
0C3E  CD 2F2B     C          CALL    STRSTATE
0C41  CD 29DA     C          CALL    FGOFDEC
0C44  7B          C          LD      A,E
0C45  FE 01       C          CP      01H
0C47  CA 0C54     C          JP      Z,D51
0C4A  FE 02       C          CP      02H
0C4C  CA 0C50     C          JP      Z,D52
0C4F  FE 03       C          CP      03H
0C51  CA 0C66     C          JP      Z,D53
```

```
0C54  CD 0983     C D51:    CALL   CLRSETF
0C57  CD 2AD5     C         CALL   POLLCLRF
0C5A  C3 0C6C     C         JP     NE5
0C5D  CD 29A5     C D52:    CALL   CLRSETB
0C60  CD 2AEA     C         CALL   POLLCLRB
0C63  C3 0C6C     C         JP     NE5
0C66  CD 29C0     C D53:    CALL   CLRSETA
0C69  CD 2AFF     C         CALL   POLLCLRA
0C6C  16 12       C NE5:    LD     D,12H
0C6E  C9          C         RET
                  C
0C6F  1E 32       C STRS32: LD     E,32H
0C71  CD 2F29     C         CALL   STRSTATE
0C74  CD 29DA     C         CALL   FGOFDEC
0C77  7B          C         LD     A,E
0C78  FE 01       C         CP     01H
0C7A  CA 0C87     C         JP     Z,D61
0C7D  FE 02       C         CP     02H
0C7F  CA 0C90     C         JP     Z,D62
0C82  FE 03       C         CP     03H
0C84  CA 0C99     C         JP     Z,D63
0C87  CD 0983     C D61:    CALL   CLRSETF
0C8A  CD 2AD5     C         CALL   POLLCLRF
0C8D  C3 0C9F     C         JP     NE6
0C90  CD 29A5     C D62:    CALL   CLRSETB
0C93  CD 2AEA     C         CALL   POLLCLRB
0C96  C3 0C9F     C         JP     NE6
0C99  CD 29C0     C D63:    CALL   CLRSETA
0C9C  CD 2AFF     C         CALL   POLLCLRA
0C9F  16 12       C NE6:    LD     D,12H
0CA1  C9          C         RET
0CA2  CD 29DA     C G00:    CALL   FGOFDEC
0CA5  7B          C         LD     A,E
0CA6  FE 01       C         CP     01H
0CA8  CA 0CB5     C         JP     Z,D31
0CAB  FE 02       C         CP     02H
0CAD  CA 0CBE     C         JP     Z,D32
0CB0  FE 03       C         CP     03H
0CB2  CA 0CC7     C         JP     Z,D33
0CB5  CD 0983     C D31:    CALL   CLRSETF
0CB8  CD 2AD5     C         CALL   POLLCLRF
0CBB  C3 0CCD     C         JP     NE3
0CBE  CD 29A5     C D32:    CALL   CLRSETB
0CC1  CD 2AEA     C         CALL   POLLCLRB
0CC4  C3 0CCD     C         JP     NE3
0CC7  CD 29C0     C D33:    CALL   CLRSETA
0CCA  CD 2AFF     C         CALL   POLLCLRA
0CCD  16 14       C NE3:    LD     D,14H
0CCF  CD 3177     C         CALL   LPDELAY
0CD2  C9          C         RET
0CD3  CD 29DA     C G000:   CALL   FGOFDEC
0CD6  7B          C         LD     A,E
0CD7  FE 01       C         CP     01H
0CD9  CA 0CE6     C         JP     Z,D41
0CDC  FE 02       C         CP     02H
0CDE  CA 0CEF     C         JP     Z,D42
```

```
0CE1  FE 03       C              CP      03H
0CE3  CA 0CF8     C              JP      Z,D43
0CE6  CD 0983     C D41:         CALL    CLRSETF
0CE9  CD 2AD5     C              CALL    POLLCLRF
0CEC  C3 0CFE     C              JP      NE4
0CEF  CD 29A5     C D42:         CALL    CLRSETB
0CF2  CD 2AEA     C              CALL    POLLCLRB
0CF5  C3 0CFE     C              JP      NE4
0CF8  CD 2BC0     C D43:         CALL    CLRSETA
0CFB  CD 2AFF     C              CALL    POLLCLRA
0CFE  16 16       C NE4:         LD      D,16H
0D00  C9          C              RET
                  C
                  C
0D01              C STATE2:      ;ITS FUNCTION
                  C              ;CLEAR SWTB WHICH TELEPHONE RECEIVE DIAL
                  C              ;WRITE SWTB AGAIN
                  C              ;COPY TS: AND SEND TO ARRANGE2
0D01  3E 0D       C              LD      A,0DH           ;SET RST6.5
0D03  30          C              DB      SIM
0D04  FB          C              EI
0D05  CD 2866     C              CALL    SCNRAM
0D08  16 00       C              LD      D,00H
0D0A  CD 29F7     C              CALL    SWTB0
0D0D  16 FF       C              LD      D,0FFH
0D0F  CD 2A04     C              CALL    CSWTB0
                  C ;CLEAR FORMER TS:
0D12  0D          C              DEC     C
0D13  16 00       C              LD      D,00H
0D15  CD 29F7     C              CALL    SWTB0
0D18  16 FF       C              LD      D,0FFH
0D1A  CD 2A04     C              CALL    CSWTB0
0D1D  79          C              LD      A,C
0D1E  C6 13       C              ADD     A,13H
                  C ;ADD TO SELECT EXTERNAL TS:
                  C ;START AT TS:20
0D20  5F          C              LD      E,A     ;SAVE TS: IN REGISTER E
0D21  0C          C              INC     C
0D22  0C          C              INC     C
0D23  16 00       C              LD      D,00H
0D25  CD 29F7     C              CALL    SWTB0
0D28  16 FF       C              LD      D,0FFH
0D2A  CD 2A04     C              CALL    CSWTB0
0D2D  0C          C              INC     C
0D2E  16 FF       C              LD      D,0FFH
0D30  CD 2A04     C              CALL    CSWTB0
0D33  0C          C              INC     C
0D34  16 FF       C              LD      D,0FFH
0D36  CD 2A04     C              CALL    CSWTB0
0D39  0C          C              INC     C
0D3A  16 FF       C              LD      D,0FFH
0D3C  CD 2A04     C              CALL    CSWTB0
                  C ;CLEAR AFTER 4 TS (ALL 6 TS)
0D3F  4B          C              LD      C,E     ;SEND TS:
                  C ;START AT TS:20
0D40  79          C              LD      A,B
```

```
0D41  EE E0       C               XOR     0E0H
0D43  57          C               LD      D,A
0D44  CD 29F7     C               CALL    SWTB0
0D47  CD 2AB4     C               CALL    CSWTB0
0D4A  CD 2EEE     C               CALL    COPYTS
                  C
0D4D  C9          C               RET
                  C
0D4E  3E 0D       C STATE3:       LD      A,0DH                   ;SET RST6.5
0D50  30          C               DB      SIM
0D51  FB          C               EI
0D52  CD 2EB7     C               CALL    ARRANGE1
0D55  CD 2EDE     C               CALL    STORE1BYTE
0D58  CD 2ED6     C               CALL    ARRANGE2
0D5B  CD 2EE6     C               CALL    STORE2BYTE
0D5E  3E FF       C               LD      A,0FFH
0D60  32 00F6     C               LD      (CSMA),A
0D63  C9          C               RET
                  C
0D64              C STATE4:       ;WRITE SWTB TO SEND SIG. TS.16
                  C               ;WAIT FOR TS.16 IDLE FOR 250 MICROSECS.
                  C               ;SEND SIG. AND SET CSMA FLAG
                  C               ;WRITE SWTB TO CLOSED SIG. TS.16
0D64  3A 00F6     C               LD      A,(CSMA)
0D67  FE FF       C               CP      0FFH
0D69  CA 0D6F     C               JP      Z,START54
0D6C  C3 0DE1     C               JP      NEWS4
0D6F  3E 0D       C START54:      LD      A,0DH           ;SET RST6.5
0D71  30          C               DB      SIM
0D72  FB          C               EI
0D73  3E 40       C INITCSMA1:    LD      A,40H           ;DELAY FOR 2 FRAME
0D75  3D          C .H:           DEC     A
0D76  FE 00       C               CP      00H
0D78  C2 0D75     C               JP      NZ,.H
0D7B  3A 00F6     C CHCSMA1:      LD      A,(CSMA)
0D7E  FE 02       C               CP      02H
0D80  CA 0D99     C               JP      Z,.2BYTE
0D83  3E 01       C               LD      A,01H
0D85  32 00F6     C               LD      (CSMA),A
0D88  0E 10       C               LD      C,10H
0D8A  16 A0       C               LD      D,0A0H          ;X=1 ,Y=1 SEND SIG.
0D8C  CD 29F7     C               CALL    SWTB0
0D8F  3E 0D       C               LD      A,0DH
0D91  30          C               DB      SIM
0D92  FB          C               EI
0D93  CD 2A8E     C               CALL    SSIG1B
0D96  CD 3177     C               CALL    LPDELAY
                  C ;             JP      CHCSMA1
0D99  0E 10       C .2BYTE:       LD      C,10H
0D9B  16 A0       C               LD      D,0A0H
0D9D  CD 29F7     C               CALL    SWTB0
0DA0  3E 0D       C               LD      A,0DH
0DA2  30          C               DB      SIM
0DA3  FB          C               EI
0DA4  CD 2A99     C               CALL    SSIG2B
0DA7  CD 3177     C               CALL    LPDELAY
```

```
0DAA  3A 90F6     C             LD      A,(CSMA)
0DAD  FE 04       C             CP      04H
0DAF  CA 0DB7     C             JP      Z,NCSMA1
0DB2  3E FF       C             LD      A,0FFH
0DB4  32 90F6     C             LD      (CSMA),A
                  C ;           JP      INITCSMA1
0DB7  0E 10       C NCSMA1:     LD      C,10H
0DB9  16 A0       C             LD      D,0A0H
0DBB  CD 29F7     C             CALL    SWT00
0DBE  3E 0D       C             LD      A,0DH
0DC0  30          C             DB      30H
0DC1  FB          C             EI
0DC2  CD 2A0E     C             CALL    SS1618
0DC5  CD 3177     C             CALL    LPDELAY
0DC8  3A 90F6     C             LD      A,(CSMA)
0DCB  FE 05       C             CP      05H
0DCD  CA 0DD0     C             JP      Z,NICSMA1
                  C ;           JP      NCSMA1
0DD0  0E 10       C NICSMA1:    LD      C,10H
0DD2  16 A0       C             LD      D,0A0H
0DD4  CD 29F7     C             CALL    SWT00
0DD7  16 FF       C             LD      D,0FFH
0DD9  CD 2A0B     C             CALL    SS16
0DDC  1E 0A       C             LD      E,0AH
0DDE  CD 2F20     C             CALL    STRSTATE
0DE1  CD 0968     C MENS4:      CALL    CLRSET
0DE4  CD 2ABB     C             CALL    POLLCLR
0DE7  C9          C             RET
                  C
0DE8              C STATE6:     ;CHECK DESTINATION IDLE OR NOT
                  C             ;IF IDLE SO DESTINATION STATE = 0F5H
0DE8  26 00       C             LD      H,00H
0DEA  78          C             LD      A,B
0DEB  C6 B6       C             ADD     A,0B6H
0DED  6F          C             LD      L,A             ;FIND DESTINATION NO.
0DEE  7E          C             LD      A,(HL)
0DEF  C6 20       C             ADD     A,20H           ;FIND STATUS DESTINATION
0DF1  6F          C             LD      L,A
0DF2  7E          C             LD      A,(HL)
0DF3  FE F5       C             CP      0F5H
0DF5  CA 0E48     C             JP      Z,HAYDESIDLE    ;IF ZERO DES. DV. IDLE
0DF8  CD 2866     C DESNIDLE:   CALL    SCNRAM          ;THIS DV. NOT IDLE
0DFB  78          C             LD      A,B
0DFC  C6 60       C             ADD     A,60H
0DFE  57          C             LD      D,A
0DFF  CD 29F7     C             CALL    SWT00
0E02  CD 2A04     C             CALL    CSWT00
0E05  1E 00       C             LD      E,00H           ;SEND   BUSY TONE
0E07  CD 30C0     C             CALL    INCOMM
0E0A  26 00       C             LD      H,00H
0E0C  78          C             LD      A,B
0E0D  C6 B6       C             ADD     A,0B6H
0E0F  6F          C             LD      L,A
0E10  5E          C             LD      E,(HL)
0E11  26 40       C             LD      H,40H
0E13  78          C             LD      A,B
```

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0E14  C6 D4       C             ADD   A,0D4H
0E16  6F          C             LD    L,A
0E17  73          C             LD    (HL),E
0E18  3E FF       C             LD    A,0FFH
0E1A  32 00FA     C             LD    (DECODE1),A
0E1D  32 00FB     C              LD    (DECODE2),A
0E20  1E FF       C             LD    E,0FFH
0E22  26 00       C             LD    H,00H
0E24  78          C             LD    A,B
0E25  C6 98       C             ADD   A,98H
0E27  6F          C             LD    L,A
0E28  73          C             LD    (HL),E
0E29  78          C             LD    A,B
0E2A  C6 B6       C             ADD   A,0B6H
0E2C  6F          C             LD    L,A
0E2D  73          C             LD    (HL),E
                  C ;***        LD    E,0AH
0E2E  26 40       C             LD    H,40H
0E30  78          C             LD    A,B
0E31  C6 5C       C             ADD   A,5CH
0E33  6F          C             LD    L,A
0E34  73          C             LD    (HL),E
0E35  16 FF       C             LD    D,0FFH
0E37  CD 2951     C             CALL  STRTIMER
0E3A  1E 90       C             LD    E,90H
0E3C  CD 2F20     C             CALL  STRSTATE
0E3F  CD 0968     C             CALL  CLRSET
0E42  CD 2ABB     C             CALL  POLLCLR
0E45  C3 01CB     C             JP    SCAN
0E48  CD 2880     C MAYDESIDLE: CALL  FREPDES
0E4B  78          C             LD    A,E
0E4C  FE FF       C             CP    0FFH
0E4E  CA 0DF8     C             JP    Z,DESNIDLE
0E51  CD 2866     C             CALL  SCNRAM
0E54  78          C             LD    A,B
0E55  C6 60       C             ADD   A,60H
0E57  57          C             LD    D,A
0E58  CD 29F7     C             CALL  SWTB0
0E59  CD 2A04     C             CALL  CSWTB0
0E5E  1E 0E       C             LD    E,0EH           ;SEND RING BACK TONE
0E60  CD 30CB     C             CALL  INCOMM
0E63  1E 06       C             LD    E,06H
0E65  CD 2F20     C             CALL  STRSTATE
0E68  C3 01C0     C             JP    SCAN
                  C
0E6B              C STATE7:     ;ALREADY KNOWN DESTINATION IDLE
                  C             ;CHECK DESTINATION OFF HOOK ORNOT
                  C             ;IF DESTINATION OFF HOOK  DEES. = 20H
0E6B  26 00       C             LD    H,00H
0E6D  78          C             LD    A,B
0E6E  C6 B6       C             ADD   A,0B6H
0E70  6F          C             LD    L,A             ;FIND DESTINATION NO.
0E71  7E          C             LD    A,(HL)
0E72  C6 20       C             ADD   A,20H           ;FIND STATUS DESTINATION
0E74  6F          C             LD    L,A
0E75  7E          C             LD    A,(HL)
```

```
0E76  FE 40       C             CP      40H
0E78  CA 0E7E     C             JP      Z,DESOFH        ;IF ZERO DESTINATION OFH
0E7B  C3 01CB     C             JP      SCAN
0E7E  26 80       C DESOFH:     LD      H,80H
0E80  2E 00       C             LD      L,00H
0E82  2C          C SCN1:       INC     L
0E83  7E          C             LD      A,(HL)
0E84  E6 0F       C             AND     0FH
0E86  B8          C             CP      B
0E87  CA 0E93     C             JP      Z,CLRR          ;CLEAR RING BACK AND INSSERT NEW DES.DV.
0E8A  79          C             LD      A,L
0E8B  FE 1E       C             CP      1EH
0E8D  CA 0EBE     C             JP      Z,ESCAPE1
0E90  C3 0E82     C             JP      SCN1
0E93  4D          C CLRR:       LD      C,L
0E94  26 80       C             LD      H,80H
0E96  78          C             LD      A,B
0E97  C6 B6       C             ADD     A,0B6H
0E99  6F          C             LD      L,A
0E9A  7E          C             LD      A,(HL)
0E9B  5F          C             LD      E,A             ;FIND DESTINATION NO.
0E9C  CD 30CB     C             CALL    INCOMM
0E9F  26 80       C             LD      H,80H
0EA1  78          C             LD      A,B
0EA2  C6 98       C             ADD     A,98H
0EA4  6F          C             LD      L,A
0EA5  3E FF       C             LD      A,0FFH
0EA7  77          C             LD      (HL),A
0EA8  78          C             LD      A,B
0EA9  C6 B6       C             ADD     A,0B6H
0EAB  6F          C             LD      L,A
0EAC  3E FF       C             LD      A,0FFH
0EAE  77          C             LD      (HL),A
0EAF  26 40       C             LD      H,40H
0EB1  78          C             LD      A,B
0EB2  C6 5C       C             ADD     A,5CH
0EB4  6F          C             LD      L,A
0EB5  3E FF       C             LD      A,0FFH
0EB7  77          C             LD      (HL),A
0EB8  32 00FA     C             LD      (DECODE1),A
0EBB  32 00FB     C             LD      (DECODE2),A
0EBE  1E 0A       C ESCAPE1:    LD      E,0AH
0EC0  CD 2F20     C             CALL    STRSTATE
0EC3  C3 01CB     C             JP      SCAN
                  C
0EC6              C STATE8:     ;INTERNAL COMMUNICATION O.K.
                  C ;SET INTERNAL STATE  = 40H
0EC6  CD 2F50     C             CALL    CRING
0EC9  1E 40       C             LD      E,40H           ;SET STATE TO WAIT FOR
                  C             ;TRANSFER NUMBER
0ECB  CD 2F20     C             CALL    STRSTATE
                  C
0ECE  78          C             LD      A,B
0ECF  FE B5       C             CP      B5H
0ED1  CC 3177     C             CALL    Z,LPDELAY
0ED4  CD 0968     C             CALL    CLRSET
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```
0ED7  CD 2ABB   C              CALL   POLLCLR
0EDA  C3 01CB   C              JP     SCAN
                C
0EDD            C STATE9:      ;EXTERNAL RECEIVER O.K. OR NOT
0EDD  CD 2E9F   C              CALL   CLRRB
0EE0  C9        C              RET
                C
0EE1            C STATE10:     ;THIS STATE SHOW OPERATOR (DV.1)OFF HOOK
0EE1  CD 2F50   C              CALL   CRING
                C ;            CALL   READRAM
                C ;            INC    C
                C ;            LD     A,B
                C ;            LD     A,01H
                C ;            XOR    60H
                C ;            LD     D,A
                C ;            CALL   SWIBB
                C ;            CALL   CSWIBB
                C ;            CALL   COPYTS
                C ;            CALL   RTSUSED
                C ;            LD     E,0CH
                C ;            CALL   INCOMM
0EE4  06 0C     C              LD     B,0CH
0EE6  1E F7     C              LD     E,0F7H
0EE8  CD 2F20   C              CALL   STRSTATE
0EE9  06 01     C              LD     B,01H
0EED  1E 50     C              LD     E,50H
0EEF  CD 2F20   C              CALL   STRSTATE
                C ;            CALL   SCNRAM
                C ;            INC    C
                C ;            INC    C
                C ;            LD     D,4FH
                C ;            CALL   SWIBB
                C ;            CALL   CSWIBB
0EF2  CD 0968   C              CALL   CLRSET
0EF5  CD 2ABB   C              CALL   POLLCLR
0EF8  C3 01CB   C              JP     SCAN
                C
0EFB            C STATE11:     ;SHOW THIS DV. WANT TO CONNECT PSTN
0EFB  26 80     C              LD     H,80H
0EFD  2E 00     C              LD     L,00H
0EFF  2C        C SCNL:        INC    L
0F00  7E        C              LD     A,(HL)
0F01  E6 0F     C              AND    0FH
0F03  B8        C              CP     B
0F04  CA 0F0A   C              JP     Z,BUSINESSB
0F07  C3 0EFF   C              JP     SCNL
0F0A  4D        C BUSINESSB:   LD     C,L
0F0B  CD 2A25   C              CALL   FDSWC
0F0E  7B        C              LD     A,E
0F0F  FE FF     C              CP     0FFH
0F11  CA 0F3E   C              JP     Z,CBUSY
0F14  0D        C              DEC    C
0F15  16 2C     C              LD     D,2CH
0F17  CD 29F7   C              CALL   SWIBB
0F1A  CD 2AB4   C              CALL   CSWIBB
0F1D  0C        C              INC    C
```

```
0F1E  0C        C             INC   C
0F1F  16 4C     C             LD    D,4CH
0F21  CD 29F7   C             CALL  SWIB0
0F24  CD 2A04   C             CALL  CSWIB0
0F27  50        C             LD    D,B
0F28  1E 12     C             LD    E,12H
0F2A  CD 2F20   C             CALL  STRSTATE
0F2D  06 0C     C             LD    B,0CH
0F2F  1E F9     C             LD    E,0F9H
0F31  CD 2F20   C             CALL  STRSTATE
0F34  42        C             LD    B,D
0F35  CD 0960   C             CALL  CLRSET
0F38  CD 2ABB   C             CALL  POLLCLR
0F3B  C3 01CB   C             JP    SCAN
                C
0F3E            C CBUSY:
0F3E  0D        C             DEC   C
0F3F  16 2D     C             LD    D,2DH
0F41  CD 29F7   C             CALL  SWIB0
0F44  CD 2A04   C             CALL  CSWIB0
0F47  0C        C             INC   C
0F48  0C        C             INC   C
0F49  16 4D     C             LD    D,4DH
0F4B  CD 29F7   C             CALL  SWIB0
0F4E  CD 2A04   C             CALL  CSWIB0
0F51  1E 0A     C             LD    E,0AH
0F53  CD 2F20   C             CALL  STRSTATE
0F56  CD 0960   C             CALL  CLRSET
0F59  CD 2ABB   C             CALL  POLLCLR
0F5C  C3 01CB   C             JP    SCAN
                C
0F5F            C STATE12:    ;USED FOR WHEN THE TELEPHONE THAT WANT TO CALL
                C             ;OUT OF LAN  NOW ON HOOK
0F5F  F3        C             DI
0F60  CD 2F50   C             CALL  CRING
0F63  26 00     C             LD    H,00H
0F65  2E 00     C             LD    L,00H
0F67  2C        C SCNL1:      INC   L
0F68  7E        C             LD    A,(HL)
0F69  E6 0F     C             AND   0FH
0F6B  B9        C             CP    B
0F6C  CA 0F72   C             JP    Z,BUSI
0F6F  C3 0F67   C             JP    SCNL1
0F72  4D        C BUSI:       LD    C,L
0F73  16 00     C             LD    D,00H
0F75  CD 29F7   C             CALL  SWIB0
0F78  16 FF     C             LD    D,0FFH
0F7A  CD 2AB4   C             CALL  CSWIB0
0F7D  0D        C             DEC   C
0F7E  16 00     C             LD    D,00H
0F80  CD 29F7   C             CALL  SWIB0
0F83  16 FF     C             LD    D,0FFH
0F85  CD 2AB4   C             CALL  CSWIB0
0F88  0C        C             INC   C
0F89  0C        C             INC   C
0F8A  16 00     C             LD    D,00H
```

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0F8C   CD 29F7     C              CALL    SWTB0
0F8F   16 FF       C              LD      D,0FFH
0F91   CD 2A04     C              CALL    CSWTB0
0F94   50          C              LD      D,B
0F95   1E 00       C              LD      E,00H
0F97   CD 2F20     C              CALL    STRSTATE
0F9A   06 0C       C              LD      B,0CH
0F9C   1E FA       C              LD      E,0FAH
0F9E   CD 2F20     C              CALL    STRSTATE
0FA1   42          C              LD      B,D
0FA2   CD 0968     C              CALL    CLRSET
0FA5   CD 2ABB     C              CALL    POLLCLR
0FA8   C3 01CB     C              JP      SCAN
                   C
0FAB               C STATE20:     ;RECEIVE (.) NUMBER
                   C              ;AND TRANSFER NUMBER
0FAB   CD 0968     C              CALL    CLRSET
0FAE   CD 2ABB     C              CALL    POLLCLR
0FB1   CD 283E     C              CALL    SETCLRF
0FB4   3E 00       C              LD      A,00H
0FB6   D3 81       C              OUT     (81H),A
0FB8   3E 0F       C              LD      A,0FH
0FBA   EE C8       C              XOR     0C8H
0FBC   57          C              LD      D,A
0FBD   D3 42       C              OUT     (42H),A
0FBF   3E D0       C              LD      A,0D0H
0FC1   D3 81       C              OUT     (81H),A
0FC3   3E 0F       C              LD      A,0FH
0FC5   3D          C .5:          DEC     A
0FC6   FE 00       C              CP      00H
0FC8   C2 0FC5     C              JP      NZ,.5
0FCB   DB 82       C              IN      A,(82H)         ;DETECT . NUMBER
0FCD   57          C              LD      D,A
0FCE   E6 10       C              AND     10H
0FD0   FE 10       C              CP      10H
0FD2   CA 0FDB     C              JP      Z,N0
0FD5   7A          C              LD      A,D
0FD6   FE 0C       C              CP      0CH             ;IF . NUMBER WAS
                   C            ; DETECTED
0FD8   CA 0FE4     C              JP      Z,DSHARP
0FDB   CD 0993     C N0:          CALL    CLRSETF
0FDE   CD 2AD5     C              CALL    POLLCLRF
0FE1   C3 01CB     C              JP      SCAN
0FE4   CD 292C     C DSHARP:      CALL    FSOURCE
0FE7   FE 0C       C              CP      0CH
0FE9   CA 1000     C              JP      Z,JUMP1
0FEC   CD 2937     C              CALL    STRSOURCE
0FEF   CD 2B66     C              CALL    SCNRAM
0FF2   0C          C              INC     C
0FF3   79          C              LD      A,B
0FF4   C6 20       C              ADD     A,20H
0FF6   57          C              LD      D,A
0FF7   CD 29F7     C              CALL    SWTB0
0FFA   CD 2A04     C              CALL    CSWTB0
0FFD   C3 1010     C              JP      JUMP2
1000   CD 2937     C JUMP1:       CALL    STRSOURCE
```

```
1003 CD 2066     C            CALL    SCNRAM
1006 78          C            LD      A,B
1007 C6 20       C            ADD     A,20H
1009 57          C            LD      D,A
100A CD 29F7     C            CALL    SWTB0
100D CD 2A04     C            CALL    CSWTB0
1010 0D          C JUMP2:     DEC     C
1011 16 00       C            LD      D,00H
1013 CD 29F7     C            CALL    SWTB0
1016 CD 2A04     C            CALL    CSWTB0
1019 0C          C            INC     C
101A 0C          C            INC     C
101B 16 4F       C            LD      D,4FH
101D CD 29F7     C            CALL    SWTB0
1020 CD 2A04     C            CALL    CSWTB0
1023 0C          C            INC     C
1024 16 00       C            LD      D,00H
1026 CD 29F7     C            CALL    SWTB0
1029 CD 2A04     C            CALL    CSWTB0
102C 0C          C            INC     C
102D 16 2E       C            LD      D,2EH
102F CD 29F7     C            CALL    SWTB0
1032 CD 2A04     C            CALL    CSWTB0
1035 0C          C            INC     C
1036 CD 293C     C            CALL    READSOURCE
1039 5F          C            LD      E,A
103A C6 40       C            ADD     A,40H
103C 57          C            LD      D,A
103D CD 29F7     C            CALL    SWTB0
1040 CD 2A04     C            CALL    CSWTB0
1043 58          C            LD      D,B
1044 43          C            LD      B,E
1045 1E 0D       C            LD      E,0DH
1047 CD 2F20     C            CALL    STRSTATE
104A 42          C            LD      B,D
104B 1E 21       C            LD      E,21H
104D CD 2F20     C            CALL    STRSTATE
1050 CD 0983     C            CALL    CLRSEIF
1053 CD 2A05     C            CALL    POLLCLRF
1056 C3 01CB     C            JP      SCAN
                 C
1059             C STATE21:   ;RECIEVE TRANSFERED NO.
1059 CD 0968     C            CALL    CLRSET
105C CD 2A0B     C            CALL    POLLCLR
105F CD 2B3E     C            CALL    SETCLRF
1062 3E D0       C            LD      A,0D0H
1064 D3 91       C            OUT     (91H),A
1066 3E 0F       C            LD      A,0FH
1068 EE C0       C            XOR     0C0H
106A 57          C            LD      D,A
1068 D3 42       C            OUT     (42H),A
106D 3E D0       C            LD      A,0D0H
106F D3 91       C            OUT     (91H),A
1071 3E 0F       C            LD      A,0FH
1073 3D          C .7:        DEC     A
1074 FE 00       C            CP      00H
```

```
1076  C2 1073     C          JP    NZ,.7
1079  DB 82       C          IN    A,(82H)
107B  57          C          LD    D,A
107C  E6 10       C          AND   10H
107E  FE 10       C          CP    10H
1080  CA 1109     C          JP    Z,N1
1083  7A          C          LD    A,D          ;WE DON'T WANT (Z) NO.
1084  FE 0C       C          CP    0CH
1086  CA 1108     C          JP    Z,N1
1089  26 80       C          LD    H,80H
108B  78          C          LD    A,B
108C  C6 7A       C          ADD   A,7AH
108E  6F          C          LD    L,A
108F  72          C          LD    (HL),D
1090  CD 0983     C          CALL  CLRSETF
1093  CD 2AD5     C          CALL  POLLCLRF
1096  58          C          LD    E,B
1097  26 80       C          LD    H,80H
1099  78          C          LD    A,B
109A  C6 7A       C          ADD   A,7AH
109C  6F          C          LD    L,A
109D  56          C          LD    D,(HL)
109E  42          C          LD    B,D            ;LD TANSFER NO.
109F  CD 2F28     C          CALL  READSTATE
10A2  FE 0B       C          CP    0BH
10A4  CA 10D0     C          JP    Z,G01
10A7  43          C          LD    B,E
10A8  CD 2866     C          CALL  SCNRAM
10AB  78          C          LD    A,B
10AC  C6 60       C          ADD   A,60H
10AE  57          C          LD    D,A
10AF  CD 29F7     C          CALL  SWTB0
10B2  CD 2A04     C          CALL  CSWTB0
10B5  0D          C          DEC   C
10B6  16 2D       C          LD    D,2DH        ;SEND  BUSY TONE
10B8  CD 29F7     C          CALL  SWTB0
10BB  CD 2A04     C          CALL  CSWTB0
10BE  0C          C          INC   C
10BF  0C          C          INC   C
10C0  16 4F       C          LD    D,4FH
10C2  CD 29F7     C          CALL  SWTB0
10C5  CD 2A04     C          CALL  CSWTB0
10C8  1E 23       C          LD    E,23H
10CA  CD 2F28     C          CALL  STRSTATE
10CD  C3 01CB     C          JP    SCAN
10D0  43          C G01:     LD    B,E
10D1  CD 2866     C          CALL  SCNRAM
10D4  78          C          LD    A,B
10D5  C6 60       C          ADD   A,60H
10D7  57          C          LD    D,A
10D9  CD 29F7     C          CALL  SWTB0
10DB  CD 2A04     C          CALL  CSWTB0
10DE  0D          C          DEC   C
10DF  16 2E       C          LD    D,2EH          ;SEND RB TONE
10E1  CD 29F7     C          CALL  SWTB0
10E4  CD 2A04     C          CALL  CSWTB0
```

```
10E7  0C          C              INC     C
10E8  0C          C              INC     C
10E9  16 4F       C              LD      D,4FH
10EB  CD 29F7     C              CALL    SWTB0
10EE  CD 2A04     C              CALL    CSWTB0
10F1  58          C              LD      D,B
10F2  26 90       C              LD      H,90H
10F4  78          C              LD      A,B
10F5  C6 7A       C              ADD     A,7AH
10F7  6F          C              LD      L,A
10F8  7E          C              LD      A,(HL)
10F9  47          C              LD      B,A
10FA  1E 22       C              LD      E,22H
10FC  CD 2F20     C              CALL    STRSTATE
10FF  42          C              LD      B,D
1100  1E 23       C              LD      E,23H
1102  CD 2F20     C              CALL    STRSTATE
1105  C3 01CB     C              JP      SCAN
1109  CD 0983     C NI:          CALL    CLRSETF
1108  CD 2AD5     C              CALL    POLLCLRF
110E  C3 01C9     C              JP      SCAN
                  C
1111              C STATE22:     ;CONNECT TRANSFERED NO. TO DES . NO.
1111  CD 2F50     C              CALL    CRING
1114  59          C              LD      E,B
1115  CD 2915     C              CALL    FTRANS
1118  47          C              LD      B,A
1119  CD 2866     C              CALL    SCNRAM
111C  00          C              DEC     C
111D  43          C              LD      B,E
111E  78          C              LD      A,B
111F  C6 20       C              ADD     A,20H
1121  57          C              LD      D,A
1122  CD 29F7     C              CALL    SWTB0
1125  CD 2A04     C              CALL    CSWTB0
1128  0C          C              INC     C
1129  0C          C              INC     C
112A  78          C              LD      A,B
112B  C6 40       C              ADD     A,40H
112D  57          C              LD      D,A
112E  CD 29F7     C              CALL    SWTB0
1131  CD 2A04     C              CALL    CSWTB0
1134  0C          C              INC     C
1135  16 4F       C              LD      D,4FH
1137  CD 29F7     C              CALL    SWTB0
113A  CD 2A04     C              CALL    CSWTB0
113D  58          C              LD      D,B
113E  CD 2915     C              CALL    FTRANS
1141  47          C              LD      B,A
1142  1E 25       C              LD      E,25H
1144  CD 2F20     C              CALL    STRSTATE
1147  42          C              LD      B,D
1148  1E 24       C              LD      E,24H
114A  CD 2F20     C              CALL    STRSTATE
114D  CD 0968     C              CALL    CLRSET
1150  CD 2AB9     C              CALL    POLLCLR
```

```
1153  C3 01CB     C                JP      SCAN
1156              C STATE23:       ;CHECK AFTER TRANS ALREADY
                  C                ;WE WANT TO RETURN BACK BY PUSH ; NO.
1156  CD 096B     C                CALL    CLRSET
1159  CD 2A08     C                CALL    POLLCLR
115C  CD 2B3E     C                CALL    SETCLRF
115F  3E D0       C                LD      A,0D0H
1161  D3 81       C                OUT     (81H),A
1163  3E 0F       C                LD      A,0FH
1165  EE C0       C                XOR     0C0H
1167  57          C                LD      D,A
1168  D3 42       C                OUT     (42H),A
116A  3E D0       C                LD      A,0D0H
116C  D3 81       C                OUT     (81H),A
116E  3E 0A       C                LD      A,0AH
1170  3D          C .8:            DEC     A
1171  FE 00       C                CP      00H
1173  C2 1170     C                JP      NZ,.8
1176  DB 82       C                IN      A,(82H)
1178  57          C                LD      D,A
1179  E6 10       C                AND     10H
117B  FE 10       C                CP      10H
117D  CA 1186     C                JP      Z,N2
1180  7A          C                LD      A,D
1181  FE 0C       C                CP      0CH
1183  CA 118F     C                JP      Z,DSHARP0
1186  CD 0983     C N2:            CALL    CLRSETF
1189  CD 2AD5     C                CALL    POLLCLRF
118C  C3 01CB     C                JP      SCAN
118F  CD 0983     C DSHARP0:       CALL    CLRSETF
1192  CD 2AD5     C                CALL    POLLCLRF
1195  CD 293C     C                CALL    READSOURCE
1198  58          C                LD      E,B
1199  47          C                LD      B,A
119A  CD 2866     C                CALL    SCNRAM
119D  79          C                LD      A,C
119E  FE 20       C                CP      20H
11A0  CA 01CB     C                JP      Z,SCAN
11A3  16 00       C                LD      D,00H
11A5  CD 29F7     C                CALL    SWTB0
11A8  0D          C                DEC     C
11A9  16 00       C                LD      D,00H
11AB  CD 29F7     C                CALL    SWTB0
11AE  0D          C                DEC     C
11AF  16 00       C                LD      D,00H
11B1  CD 29F7     C                CALL    SWTB0
11B4  43          C                LD      B,E
11B5  26 00       C                LD      H,00H
11B7  78          C                LD      A,B
11B8  C6 7A       C                ADD     A,7AH
11BA  6F          C                LD      L,A
11BB  56          C                LD      D,(HL)
11BC  59          C                LD      E,B
11BD  42          C                LD      B,D
11BE  CD 2F28     C                CALL    READSTATE
11C1  FE 24       C                CP      24H
```

```
11C3  CA 1284    C          JP    Z,TRANSOK
11C6  FE 22      C          CP    22H
11C8  CA 11CE    C          JP    Z,CLRTRAN
11CB  C3 11D7    C          JP    GO2
11CE  26 00      C CLRTRAN: LD    H,00H
11D0  78         C          LD    A,B
11D1  C6 20      C          ADD   A,20H
11D3  6F         C          LD    L,A
11D4  3E 00      C          LD    A,00H
11D6  77         C          LD    (HL),A
11D7  43         C GO2:     LD    B,E
11D8  CD 2866    C          CALL  SCNRAM
11DB  CD 293C    C          CALL  READSOURCE
11DE  FE 0C      C          CP    0CH
11E0  CA 120A    C          JP    Z,JUMP3
11E3  C6 60      C          ADD   A,60H
11E5  57         C          LD    D,A
11E6  CD 29F7    C          CALL  SWTB0
11E9  CD 2A04    C          CALL  CSWTB0
11EC  0D         C          DEC   C
11ED  78         C          LD    A,B
11EE  C6 20      C          ADD   A,20H
11F0  57         C          LD    D,A
11F1  CD 29F7    C          CALL  SWTB0
11F4  CD 2A04    C          CALL  CSWTB0
11F7  0C         C          INC   C
11F8  0C         C          INC   C
11F9  78         C          LD    A,B
11FA  C6 40      C          ADD   A,40H
11FC  57         C          LD    D,A
11FD  CD 29F7    C          CALL  SWTB0
1200  CD 2A04    C          CALL  CSWTB0
1203  C3 1221    C          JP    JUMP4
1206  16 61      C JUMP3:   LD    D,61H
1208  CD 29F7    C          CALL  SWTB0
120B  CD 2A04    C          CALL  CSWTB0
120E  0D         C          DEC   C
120F  16 2C      C          LD    D,2CH
1211  CD 29F7    C          CALL  SWTB0
1214  CD 2A04    C          CALL  CSWTB0
1217  0C         C          INC   C
1218  0C         C          INC   C
1219  16 4C      C          LD    D,4CH
121B  CD 29F7    C          CALL  SWTB0
121E  CD 2A04    C          CALL  CSWTB0
1221  0C         C JUMP4:   INC   C
1222  16 4F      C          LD    D,4FH
1224  CD 29F7    C          CALL  SWTB0
1227  CD 2A04    C          CALL  CSWTB0
122A  58         C          LD    D,B
122B  CD 293C    C          CALL  READSOURCE
122E  FE 0C      C          CP    0CH
1230  CA 1242    C          JP    Z,NINSTALL
1233  47         C          LD    B,A
1234  1E 0A      C          LD    E,0AH
1236  CD 2F20    C          CALL  STRSTATE
```

```
1239  42          C                LD      B,D
123A  1E 20       C                LD      E,20H
123C  CD 2F20     C                CALL    STRSTATE
123F  C3 124E     C                JP      DPROTECT
1242  47          C NINSTALL:      LD      B,A
1243  1E F8       C                LD      E,0F8H
1245  CD 2F20     C                CALL    STRSTATE
1248  42          C                LD      B,D
1249  1E 20       C                LD      E,20H
124B  CD 2F20     C                CALL    STRSTATE
124E  3E FF       C DPROTECT:      LD      A,0FFH  ;BACK SA
                  C ;TO OLD STATE
1250  3D          C PROTECT0:      DEC     A
1251  FE 00       C                CP      00H
1253  C2 1250     C                JP      NZ,PROTECT0
1256  3E FF       C                LD      A,0FFH
1258  3D          C PROTECT1:      DEC     A
1259  FE 00       C                CP      00H
125B  C2 1258     C                JP      NZ,PROTECT1
125E  3E FF       C                LD      A,0FFH
1260  3D          C PROTECT2:      DEC     A
1261  FE 00       C                CP      00H
1263  C2 1260     C                JP      NZ,PROTECT2
1266  3E FF       C                LD      A,0FFH
1268  3D          C PROTECT3:      DEC     A
1269  FE 00       C                CP      00H
126B  C2 1268     C                JP      NZ,PROTECT3
126E  3E FF       C                LD      A,0FFH
1270  3D          C PROTECT4:      DEC     A
1271  FE 00       C                CP      00H
1273  C2 1270     C                JP      NZ,PROTECT4
1276  3E FF       C                LD      A,0FFH
1278  3D          C PROTECT5:      DEC     A
1279  FE 00       C                CP      00H
127B  C2 1278     C                JP      NZ,PROTECT5
127E  CD 3177     C                CALL    LPDELAY
1281  C3 01CB     C                JP      SCAN
1284  43          C TRANSDK:       LD      B,E
1285  CD 2866     C                CALL    SCNRAM
1288  CD 293C     C                CALL    READSOURCE
128B  C6 60       C                ADD     A,60H
128D  57          C                LD      D,A
128E  CD 29F7     C                CALL    SWTBB
1291  CD 2A04     C                CALL    CSWTBB
1294  26 00       C                LD      H,00H
1296  78          C                LD      A,B
1297  C6 7A       C                ADD     A,7AH
1299  6F          C                LD      L,A
129A  5E          C                LD      E,(HL)
129B  7B          C                LD      A,E
129C  C6 20       C                ADD     A,20H
129E  57          C                LD      D,A
129F  0D          C                DEC     C
12A0  CD 29F7     C                CALL    SWTBB
12A3  CD 2A04     C                CALL    CSWTBB
12A6  7B          C                LD      A,E
```

```
12A7  C6 40      C              ADD     A,40H
12A9  57         C              LD      D,A
12AA  0C         C              INC     C
12AB  0C         C              INC     C
12AC  CD 29F7    C              CALL    SWIB0
12AF  CD 2A04    C              CALL    CSWI90
12B2  58         C              LD      D,B
12B3  CD 293C    C              CALL    READSOURCE
12B6  47         C              LD      B,A
12B7  1E 0E      C              LD      E,0EH
12B9  CD 2F20    C              CALL    STRSTATE
12BC  42         C              LD      B,D
12BD  26 80      C              LD      H,82H
12BF  78         C              LD      A,B
12C0  C6 7A      C              ADD     A,7AH
12C2  6F         C              LD      L,A
12C3  7E         C              LD      A,(HL)
12C4  47         C              LD      B,A
12C5  1E 26      C              LD      E,26H
12C7  CD 2F20    C              CALL    STRSTATE
12CA  42         C              LD      B,D
12CB  1E 27      C              LD      E,27H
12CD  CD 2F20    C              CALL    STRSTATE
12D0  C3 01CB    C              JP      SCAN
                 C
12D3             C STATE41:     ;THIS DV.
                 C ;IS A TRANFERING DV.
12D3  16 FF      C              LD      D,0FFH
12D5  CD 2951    C              CALL    STRTIMER
                 C ;RESET  TIMER
12D8  26 40      C              LD      H,40H
12DA  78         C              LD      A,B
12DB  C6 7A      C              ADD     A,7AH
12DD  6F         C              LD      L,A
12DE  3E FF      C              LD      A,0FFH
12E0  77         C              LD      (HL),A
                 C ;CLEAR 1 TRANSF NO.
12E1  CD 28DA    C              CALL    FGOFDEC
12E4  7B         C              LD      A,E
12E5  FE 01      C              CP      01H
12E7  CA 12F4    C              JP      Z,DE1
12EA  FE 02      C              CP      02H
12EC  CA 12F9    C              JP      Z,DE2
12EF  FE 03      C              CP      03H
12F1  CA 12FE    C              JP      Z,DE3
12F4  16 4F      C DE1:         LD      D,4FH
12F6  C3 1300    C              JP      NS00
12F9  16 4B      C DE2:         LD      D,4BH
12FB  C3 1300    C              JP      NS00
12FE  16 4A      C DE3:         LD      D,4AH
1300  CD 2A0C    C NS00:        CALL    FDSWI80
1303  7B         C              LD      A,E
1304  FE FF      C              CP      0FFH
1306  CA 130C    C              JP      Z,UNTRANSF
1309  C3 133A    C              JP      CANTRANS
130C  CD 292C    C UNTRANSF:    CALL    FSOURCE
```

```
130F  CD 2937     C             CALL    STRSOURCE
1312  CD 2866     C             CALL    SCNRAM
1315  0C          C             INC     C
1316  78          C             LD      A,B
1317  C6 60       C             ADD     A,60H
1319  57          C             LD      D,A
131A  CD 29F7     C             CALL    SWTB0
131D  CD 2A04     C             CALL    CSWTB0
1320  1E 0D       C             LD      E,0DH
1322  CD 3D63     C             CALL    INCOMM
1325  CD 2866     C             CALL    SCNRAM
1328  0C          C             INC     C
1329  0C          C             INC     C
132A  0C          C             INC     C
132B  0C          C             INC     C
132C  CD 293C     C             CALL    READSOURCE
132F  CD 2994     C             CALL    HOLDSOURCE
1332  1E 4B       C             LD      E,4BH
1334  CD 2F20     C             CALL    STRSTATE
1337  C3 1390     C             JP      OUT41
133A  CD 292C     C CANTRANS:   CALL    FSOURCE
133D  CD 2937     C             CALL    STRSOURCE
1340  CD 2866     C             CALL    SCNRAM
1343  16 2E       C             LD      D,2EH
1345  CD 29F7     C             CALL    SWTB0
1348  16 2F       C             LD      D,2FH
134A  CD 2A04     C             CALL    CSWTB0
134D  0C          C             INC     C
134E  79          C             LD      A,B
134F  C6 60       C             ADD     A,60H
1351  57          C             LD      D,A
1352  CD 29F7     C             CALL    SWTB0
1355  CD 2A04     C             CALL    CSWTB0
1358  0C          C             INC     C
1359  CD 29DA     C             CALL    FGOFDEC
135C  78          C             LD      A,E
135D  FE 01       C             CP      01H
135F  CA 136C     C             JP      Z,DEC01
1362  FE 02       C             CP      02H
1364  CA 136C     C             JP      Z,DEC01
1367  FE 03       C             CP      03H
1369  CA 1376     C             JP      Z,DEC03
136C  16 4F       C DEC01:      LD      D,4FH
136E  C3 1378     C             JP      NES0
1371  16 4B       C DEC02:      LD      D,4BH
1373  C3 1378     C             JP      NES0
1376  16 4A       C DEC03:      LD      D,4AH
1378  CD 29F7     C NES0:       CALL    SWTB0
137B  CD 2A04     C             CALL    CSWTB0
137E  CD 2866     C             CALL    SCNRAM
1381  0C          C             INC     C
1382  0C          C             INC     C
1383  0C          C             INC     C
1384  0C          C             INC     C
1385  CD 293C     C             CALL    READSOURCE
1388  CD 2994     C             CALL    HOLDSOURCE
```

```
1388  1E 42      C               LD      E,42H
138D  CD 2F20    C               CALL    STRSTATE
1390  CD 0968    C OUT41:        CALL    CLRSET
1393  CD 2A88    C               CALL    POLLCLR
1396  C3 01CB    C               JP      SCAN
                 C
1399               C STATE51:        ;THIS DV.
                   C ;IS A TRANFERING DV.
1399  16 FF      C               LD      D,0FFH
1398  CD 2951    C               CALL    STRTIMER
                   C ;RESET  TIMER
139E  26 40      C               LD      H,40H
13A0  78         C               LD      A,B
13A1  C6 7A      C               ADD     A,7AH
13A3  6F         C               LD      L,A
13A4  3E FF      C               LD      A,0FFH
13A6  77         C               LD      (HL),A
13A7  CD 28DA    C               CALL    FGOFDEC
13AA  7B         C               LD      A,E
13AB  FE 01      C               CP      01H
13AD  CA 13BA    C               JP      Z,DE11
13B0  FE 02      C               CP      02H
13B2  CA 13BF    C               JP      Z,DE22
13B5  FE 03      C               CP      03H
13B7  CA 13C4    C               JP      Z,DE33
13BA  16 4F      C DE11:         LD      D,4FH
13BC  C3 13C6    C               JP      NS001
13BF  16 4B      C DE22:         LD      D,4BH
13C1  C3 13C6    C               JP      NS001
13C4  16 4A      C DE33:         LD      D,4AH
13C6  CD 2A0C    C NS001:        CALL    FDSWTB0
13C9  7B         C               LD      A,E
13CA  FE FF      C               CP      0FFH
13CC  CA 13D2    C               JP      Z,UNTRANSF1
13CF  C3 13FF    C               JP      CANTRANS1
13D2  CD 292C    C UNTRANSF1:    CALL    FSOURCE
13D5  CD 2937    C               CALL    STRSOURCE
13D8  CD 2866    C               CALL    SCNRAM
13DB  78         C               LD      A,B
13DC  C6 60      C               ADD     A,60H
13DE  57         C               LD      D,A
13DF  CD 29F7    C               CALL    SWTB0
13E2  CD 2A04    C               CALL    CSWTB0
13E5  1E 0D      C               LD      E,0DH
13E7  CD 30CB    C               CALL    INCOMM
13EA  CD 2866    C               CALL    SCNRAM
13ED  0C         C               INC     C
13EE  0C         C               INC     C
13EF  0C         C               INC     C
13F0  0C         C               INC     C
13F1  CD 293C    C               CALL    READSOURCE
13F4  CD 2994    C               CALL    HOLDSOURCE
13F7  1E 4B      C               LD      E,4BH
13F9  CD 2F20    C               CALL    STRSTATE
13FC  C3 1456    C               JP      OUT51
13FF  CD 292C    C CANTRANS1:    CALL    FSOURCE
```

```
1402  CD 2937    C            CALL   STRSOURCE
1405  CD 2866    C            CALL   SCNRAM
1408  0D         C            DEC    C
1409  16 2E      C            LD     D,2EH
140B  CD 29F7    C            CALL   SWT80
140E  16 2F      C            LD     D,2FH
1410  CD 2A04    C            CALL   CSWT80
1413  0C         C            INC    C
1414  78         C            LD     A,B
1415  C6 60      C            ADD    A,60H
1417  57         C            LD     D,A
1418  CD 29F7    C            CALL   SWT80
141B  CD 2A04    C            CALL   CSWT80
141E  0C         C            INC    C
141F  CD 28DA    C            CALL   FGOFDEC
1422  7B         C            LD     A,E
1423  FE 01      C            CP     01H
1425  CA 1432    C            JP     Z,DECO11
1428  FE 02      C            CP     02H
142A  CA 1432    C            JP     Z,DECO11
142D  FE 03      C            CP     03H
142F  CA 143C    C            JP     Z,DECO33
1432  16 4F      C DECO11:    LD     D,4FH
1434  C3 143E    C            JP     MES01
1437  16 4B      C DECO22:    LD     D,4BH
1439  C3 143E    C            JP     MES01
143C  16 4A      C DECO33:    LD     D,4AH
143E  CD 29F7    C MES01:     CALL   SWT80
1441  CD 2A04    C            CALL   CSWT80
1444  CD 2866    C            CALL   SCNRAM
1447  0C         C            INC    C
1448  0C         C            INC    C
1449  0C         C            INC    C
144A  0C         C            INC    C
144B  CD 293C    C            CALL   READSOURCE
144E  CD 2994    C            CALL   HOLDSOURCE
1451  1E 42      C            LD     E,42H
1453  CD 2F20    C            CALL   STRSTATE
1456  CD 0968    C OUT51:     CALL   CLRSET
1459  CD 2ABB    C            CALL   POLLCLR
145C  C3 01C8    C            JP     SCAN
              C
145F              C STATE42:   ;
145F  CD 0968    C            CALL   CLRSET
1462  CD 2ABB    C            CALL   POLLCLR
1465  CD 28DA    C            CALL   FGOFDEC
1468  7B         C            LD     A,E
1469  FE 01      C            CP     01H
146B  CA 1478    C            JP     Z,GROUP1
146E  FE 02      C            CP     02H
1470  CA 1478    C            JP     Z,GROUP1
1473  FE 03      C            CP     03H
1475  CA 1496    C            JP     Z,GROUP3
1478  CD 293E    C GROUP1:    CALL   SETCLRF
147B  3E D8      C            LD     A,0D8H
147D  D3 81      C            OUT    (81H),A
```

```
147F    3E 0F        C                LD      A,0FH
1481    EE C0        C                XOR     0C0H
1483    57           C                LD      D,A
1484    D3 42        C                OUT     (42H),A
1486    3E D0        C                LD      A,0D0H
1488    D3 81        C                OUT     (81H),A
148A    C3 149C      C                JP      NS42
148D    CD 2855      C GROUP2:        CALL    SETCLRB
1490    CD 2887      C                CALL    POLLSETB
1493    C3 149C      C                JP      NS42
1496    CD 286C      C GROUP3:        CALL    SETCLRA
1499    CD 2996      C                CALL    POLLSETA
149C    3E 0A        C NS42:          LD      A,0AH
149E    3D           C .9:            DEC     A
149F    FE 00        C                CP      00H
14A1    C2 149E      C                JP      NZ,.9
14A4    1E 00        C                LD      E,00H
14A6    DB 82        C RDSHP:         IN      A,(82H)
14A8    57           C                LD      D,A
14A9    E6 10        C                AND     10H
14AB    FE 10        C                CP      10H
14AD    CA 14B6      C                JP      Z,CBDSHP
14B0    7A           C                LD      A,D
14B1    FE 0C        C                CP      0CH
14B3    CA 14F3      C                JP      Z,DSHARP1
14B6    7B           C CBDSHP:        LD      A,E
14B7    FE 09        C                CP      09H
14B9    1C           C                INC     E
14BA    CA 14C0      C                JP      Z,EXITB
14BD    C3 14A6      C                JP      RDSHP
14C0    CD 280A      C EXITB:         CALL    FBOFDEC
14C3    7B           C                LD      A,E
14C4    FE 01        C                CP      01H
14C6    CA 14D3      C                JP      Z,ED1
14C9    FE 02        C                CP      02H
14CB    CA 14D3      C                JP      Z,ED1
14CE    FE 03        C                CP      03H
14D0    CA 14E5      C                JP      Z,ED3
14D3    CD 0983      C ED1:           CALL    CLRSETF
14D6    CD 2AD5      C                CALL    POLLCLRF
14D9    C3 14EB      C                JP      042
14DC    CD 29A5      C ED2:           CALL    CLRSETB
14DF    CD 2AEA      C                CALL    POLLCLRB
14E2    C3 14EB      C                JP      042
14E5    CD 2BCB      C ED3:           CALL    CLRSETA
14E8    CD 2AFF      C                CALL    POLLCLRA
14EB    1E 42        C 042:           LD      E,42H
14ED    CD 2F20      C                CALL    STRSTATE
14F0    C3 01CB      C                JP      SCAN
14F3    CD 2966      C DSHARP1:       CALL    SCNRAM
14F6    0D           C                DEC     C
14F7    16 20        C                LD      D,20H
14F9    CD 29F7      C                CALL    SHTBB
14FC    CD 280A      C                CALL    FBOFDEC
14FF    7B           C                LD      A,E
1500    FE 01        C                CP      01H
```

```
1502    CA 150F     C               JP      Z,GR1
1505    FE 02       C               CP      02H
1507    CA 150F     C               JP      Z,GR1
150A    FE 03       C               CP      03H
150C    CA 1521     C               JP      Z,GR3
150F    CD 09B3     C GR1:          CALL    CLRSETF
1512    CD 2AD5     C               CALL    POLLCLRF
1515    C3 1527     C               JP      OUT42
1518    CD 2BA5     C GR2:          CALL    CLRSETB
151B    CD 2AEA     C               CALL    POLLCLRB
151E    C3 1527     C               JP      OUT42
1521    CD 2BCB     C GR3:          CALL    CLRSETA
1524    CD 2AFF     C               CALL    POLLCLRA
1527    1E 43       C OUT42:        LD      E,43H
1529    CD 2F20     C               CALL    STRSTATE
152C    CD 0968     C               CALL    CLRSET
152F    CD 2ABB     C               CALL    POLLCLR
1532    C3 01CB     C               JP      SCAN
                    C
1535                C STATE44:      ;
1535    CD 0968     C               CALL    CLRSET
1538    CD 2ABB     C               CALL    POLLCLR
153B    CD 2BDA     C               CALL    FOOFDEC
153E    7B          C               LD      A,E
153F    FE 01       C               CP      01H
1541    CA 154E     C               JP      Z,GROUP11
1544    FE 02       C               CP      02H
1546    CA 154E     C               JP      Z,GROUP11
1549    FE 03       C               CP      03H
154B    CA 156C     C               JP      Z,GROUP33
154E    CD 2B3E     C GROUP11:      CALL    SETCLRF
1551    3E D0       C               LD      A,0D0H
1553    D3 81       C               OUT     (81H),A
1555    3E 0F       C               LD      A,0FH
1557    EE C0       C               XOR     0C0H
1559    57          C               LD      D,A
155A    D3 42       C               OUT     (42H),A
155C    3E D0       C               LD      A,0D0H
155E    D3 81       C               OUT     (81H),A
1560    C3 1572     C               JP      NS421
1563    CD 2955     C GROUP22:      CALL    SETCLRB
1566    CD 2B87     C               CALL    POLLSETB
1569    C3 1572     C               JP      NS421
156C    CD 296C     C GROUP33:      CALL    SETCLRA
156F    CD 2B96     C               CALL    POLLSETA
1572    3E 0A       C NS421:        LD      A,0AH
1574    3D          C .91:          DEC     A
1575    FE 00       C               CP      00H
1577    C2 1574     C               JP      NZ,.91
157A    1E 00       C               LD      E,00H
157C    DB 82       C INAG:         IN      A,(82H)
157E    57          C               LD      D,A
157F    1C          C               INC     E
1580    E6 10       C               AND     10H
1582    FE 10       C               CP      10H
1584    CA 158A     C               JP      Z,RAGAIN1
```

```
1587  C3 1593     C                   JP      READ
158A  7B          C RAGAIN1:          LD      A,E
158B  FE B9       C                   CP      B9H
158D  C2 157C     C                   JP      NZ,INAG
1590  C3 1663     C                   JP      EXIT44
1593  7A          C READ:             LD      A,D
1594  FE BC       C                   CP      BCH
1596  CA 1663     C                   JP      Z,EXIT44
                  C ;STORE 1 SIGN. NO.
1599  26 40       C                   LD      H,40H
159B  78          C                   LD      A,B
159C  C6 7A       C                   ADD     A,7AH
159E  6F          C                   LD      L,A
159F  7E          C                   LD      A,(HL)
15A0  FE FF       C                   CP      0FFH
15A2  CA 15A9     C                   JP      Z,STRAN1NO
15A5  C3 15B5     C                   JP      CHKT2NO
15A9  26 40       C STRAN1NO:         LD      H,40H
15AA  78          C                   LD      A,B
15AB  C6 7A       C                   ADD     A,7AH
15AD  6F          C                   LD      L,A
15AE  72          C                   LD      (HL),D
15AF  CD 3115     C                   CALL    RDELAY
15B2  C3 1699     C                   JP      STRS61
15B5  CD 2F2B     C CHKT2NO:          CALL    READSTATE
15B8  FE 62       C                   CP      62H
15BA  CA 15C0     C                   JP      Z,NOT2NO
15BD  C3 1699     C                   JP      STRS61
15C0  26 B0       C NOT2NO:           LD      H,B0H
15C2  78          C                   LD      A,B
15C3  C6 7A       C                   ADD     A,7AH
15C5  6F          C                   LD      L,A
15C6  72          C                   LD      (HL),D
15C7  26 40       C                   LD      H,40H
15C9  78          C                   LD      A,B
15CA  C6 7A       C                   ADD     A,7AH
15CC  6F          C                   LD      L,A
15CD  7E          C                   LD      A,(HL)
15CE  FE BA       C                   CP      BAH
15D0  CA 15E2     C                   JP      Z,INSB1
15D3  E6 02       C                   AND     02H
15D5  CA 15F8     C                   JP      Z,ALLBUSY
15D8  E6 04       C                   AND     04H
15DA  CA 15F8     C                   JP      Z,ALLBUSY
15DD  E6 B9       C                   AND     B8H
15DF  CA 15F8     C                   JP      Z,ALLBUSY
15E2  26 40       C INSB1:            LD      H,40H
15E4  78          C                   LD      A,B
15E5  C6 7A       C                   ADD     A,7AH
15E7  6F          C                   LD      L,A
15E8  3E B8       C                   LD      A,B8H
15EA  77          C                   LD      (HL),A
15EB  07          C JUMPB1:           RLCA
15EC  07          C                   RLCA
15ED  07          C                   RLCA
15EE  07          C                   RLCA
```

```
15EF  E6 F0      C               AND     0F0H
15F1  AA         C               XOR     D
15F2  CD 27F8    C               CALL    CV16BASE
15F5  C3 15FA    C               JP      LOADTR
15F8             C ALLBUSY:      ;
                 C ;THIS ROUTINE LOAD TRANSFER  DV:
                 C ;TO NO. E SO USER ALWAYS RECEIVE BUSY
15F8  16 0E      C               LD      D,0EH
15FA  5A         C LOADTR:       LD      E,D
15FB  CD 2969    C               CALL    STRTRANSF
15FE  50         C               LD      D,B
15FF  CD 2961    C               CALL    RTRANSF
1602  47         C               LD      B,A
1603  CD 2F28    C               CALL    READSTATE
1606  FE 00      C               CP      00H
1608  CA 161C    C               JP      Z,TRIDLE
160B  42         C               LD      B,D
160C  CD 2866    C               CALL    SCNRAM
160F  1E 0D      C               LD      E,0DH
1611  CD 30CB    C               CALL    INCOMM
1614  1E 4C      C               LD      E,4CH
1616  CD 2F20    C               CALL    STRSTATE
1619  C3 1635    C               JP      OUTS44
161C  42         C TRIDLE:       LD      B,D
161D  CD 2866    C               CALL    SCNRAM
1620  1E 0E      C               LD      E,0EH
1622  CD 30CB    C               CALL    INCOMM
1625  1E 45      C               LD      E,45H
1627  CD 2F20    C               CALL    STRSTATE
162A  58         C               LD      D,B
162B  CD 2961    C               CALL    RTRANSF
162E  47         C               LD      B,A
162F  1E 46      C               LD      E,46H
1631  CD 2F2B    C               CALL    STRSTATE
1634  42         C               LD      B,D
1635  CD 28DA    C OUTS44:       CALL    FSOFDEC
1638  7B         C               LD      A,E
1639  FE 01      C               CP      01H
163B  CA 1648    C               JP      Z,GROU1
163E  FE 02      C               CP      02H
1640  CA 1648    C               JP      Z,GROU1
1643  FE 03      C               CP      03H
1645  CA 165A    C               JP      Z,GROU3
1648  CD 0983    C GROU1:        CALL    CLRSETF
164B  CD 2AD5    C               CALL    POLLCLRF
164E  C3 166B    C               JP      OST44
1651  CD 28A5    C GROU2:        CALL    CLRSETB
1654  CD 2AEA    C               CALL    POLLCLRB
1657  C3 166B    C               JP      OST44
165A  CD 28C9    C GROU3:        CALL    CLRSETA
165D  CD 2AFF    C               CALL    POLLCLRA
1660  C3 01CB    C OST44:        JP      SCAN
                 C
1663  CD 2F28    C EXIT44:       CALL    READSTATE
1666  FE 61      C               CP      61H
1668  CA 16CC    C               JP      Z,STRS62
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166B   CD 28DA    C             CALL  FGOFDEC
166E   7B         C             LD    A,E
166F   FE 01      C             CP    01H
1671   CA 167E    C             JP    Z,GR01
1674   FE 02      C             CP    02H
1676   CA 167E    C             JP    Z,GR01
1679   FE 03      C             CP    03H
167B   CA 1690    C             JP    Z,GR03
167E   CD 0983    C GR01:       CALL  CLRSETF
1681   CD 2AD5    C             CALL  POLLCLRF
1684   C3 01CB    C             JP    SCAN
1687   CD 28A5    C GR02:       CALL  CLRSETB
168A   CD 2AEA    C             CALL  POLLCLRB
168D   C3 01CB    C             JP    SCAN
1690   CD 28CB    C GR03:       CALL  CLRSETA
1693   CD 2AFF    C             CALL  POLLCLRA
1696   C3 01CB    C             JP    SCAN
                  C
1699              C STRS61:     ;
1699   1E 61      C             LD    E,61H
169B   CD 2F20    C             CALL  STRSTATE
169E   CD 28DA    C             CALL  FGOFDEC
16A1   7B         C             LD    A,E
16A2   FE 01      C             CP    01H
16A4   CA 16B1    C             JP    Z,D71
16A7   FE 02      C             CP    02H
16A9   CA 16B1    C             JP    Z,D71
16AC   FE 03      C             CP    03H
16AE   CA 16C3    C             JP    Z,D73
16B1   CD 0983    C D71:        CALL  CLRSETF
16B4   CD 2AD5    C             CALL  POLLCLRF
16B7   C3 16C9    C             JP    NE7
16BA   CD 28A5    C D72:        CALL  CLRSETB
16BD   CD 2AEA    C             CALL  POLLCLRB
16C0   C3 16C9    C             JP    NE7
16C3   CD 28CB    C D73:        CALL  CLRSETA
16C6   CD 2AFF    C             CALL  POLLCLRA
16C9   C3 01CB    C NE7:        JP    SCAN
                  C
16CC   1E 62      C STRS62:     LD    E,62H
16CE   CD 2F20    C             CALL  STRSTATE
16D1   CD 28DA    C             CALL  FGOFDEC
16D4   7B         C             LD    A,E
16D5   FE 01      C             CP    01H
16D7   CA 16E4    C             JP    Z,D81
16DA   FE 02      C             CP    02H
16DC   CA 16E4    C             JP    Z,D81
16DF   FE 03      C             CP    03H
16E1   CA 16F6    C             JP    Z,D83
16E4   CD 0983    C D81:        CALL  CLRSETF
16E7   CD 2AD5    C             CALL  POLLCLRF
16EA   C3 16FC    C             JP    NE8
16ED   CD 28A5    C D82:        CALL  CLRSETB
16F0   CD 2AEA    C             CALL  POLLCLRB
16F3   C3 16FC    C             JP    NE8
16F6   CD 28CB    C D83:        CALL  CLRSETA
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16F9  CD 2AFF     C                CALL   POLLCLRA
16FC  C3 01CB     C MES:           JP     SCAN
                  C
16FF              C STATE45:       ;CHECK TRANSFER
                  C ;OFF HOOK OR NOT IF TRANSFER
                  C ;ON HOOK STILL 45H
                  C ;OFF HOOK 47H
16FF  50          C                LD     D,B
1700  CD 2961     C                CALL   RTRANSF
1703  47          C                LD     B,A
1704  CD 2F28     C                CALL   READSTATE
1707  FE 48       C                CP     48H
1709  CA 171B     C                JP     Z,TROFH
170C  42          C                LD     B,D
170D  1E 45       C                LD     E,45H
170F  CD 2F20     C                CALL   STRSTATE
1712  CD 0968     C                CALL   CLRSET
1715  CD 2ABB     C                CALL   POLLCLR
1718  C3 01CB     C                JP     SCAN
171B  42          C TROFH:         LD     B,D
171C  CD 2866     C                CALL   SCNRAM
171F  CD 2961     C                CALL   RTRANSF
1722  5F          C                LD     E,A
1723  CD 30CB     C                CALL   INCOMM
1726  1E 47       C                LD     E,47H
1728  CD 2F20     C                CALL   STRSTATE
172B  CD 0968     C                CALL   CLRSET
172E  CD 2ABB     C                CALL   POLLCLR
1731  C3 01CB     C                JP     SCAN
                  C
1734              C STATE46:       ;THIS IS STATE OF
                  C ;TRANSFERED DV.
1734  CD 2F58     C                CALL   CRING
1737  1E 49       C                LD     E,49H
1739  CD 2F20     C                CALL   STRSTATE
173C  CD 0968     C                CALL   CLRSET
173F  CD 2ABB     C                CALL   POLLCLR
1742  C3 01CB     C                JP     SCAN
                  C
1745              C STATE49:       ;
                  C ;RETURN DES DV. TO SOURCE ND.
1745  16 FF       C                LD     D,0FFH
1747  CD 2951     C                CALL   STRTIMER
                  C ;RESET TIMER
174A  CD 2866     C                CALL   SCNRAM
174D  CD 293C     C                CALL   READSOURCE
1750  5F          C                LD     E,A
1751  CD 30CB     C                CALL   INCOMM
1754  0C          C                INC    C
1755  0C          C                INC    C
1756  16 00       C                LD     D,00H
1758  CD 29F7     C                CALL   SWTB0
175B  0C          C                INC    C
175C  16 00       C                LD     D,00H
175E  CD 29F7     C                CALL   SWTB0
1761  1E 50       C                LD     E,50H
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```
1763  CD 2F2B    C                CALL    STRSTATE
1766  CD 0968    C                CALL    CLRSET
1769  CD 2ABB    C                CALL    POLLCLR
176C  C3 01CB    C                JP      SCAN
                 C
176F             C STATE4A:
                 C ;RETURN TO SOURCE AND CLEAR
                 C ;STATUS TRANSFER DV:
176F  16 FF      C                LD      D,0FFH
1771  CD 2951    C                CALL    STRTIMER
                 C ;RESET TIMER
1774  CD 2866    C                CALL    SCNRAM
1777  CD 293C    C                CALL    READSOURCE
177A  5F         C                LD      E,A
177B  CD 3BCB    C                CALL    INCOHM
177E  0C         C                INC     C
177F  0C         C                INC     C
1780  16 00      C                LD      D,00H
1782  CD 29F7    C                CALL    SWTB0
1785  0C         C                INC     C
1786  16 00      C                LD      D,00H
1788  CD 29F7    C                CALL    SWTB0
178B  1E 50      C                LD      E,50H
178D  CD 2F2B    C                CALL    STRSTATE
1790  50         C                LD      D,B
1791  CD 2961    C                CALL    RTRANSF
1794  47         C                LD      B,A
1795  1E 00      C                LD      E,00H
1797  CD 2F2B    C                CALL    STRSTATE
179A  42         C                LD      B,D
179B  CD 0968    C                CALL    CLRSET
179E  CD 2ABB    C                CALL    POLLCLR
17A1  C3 01CB    C                JP      SCAN
                 C
17A4             C STATE71:       ;
17A4  16 FF      C                LD      D,0FFH
17A6  CD 2951    C                CALL    STRTIMER
                 C ;RESET TIMER
17A9  26 40      C                LD      H,40H
17AB  78         C                LD      A,B
17AC  C6 7A      C                ADD     A,7AH
17AE  6F         C                LD      L,A
17AF  3E FF      C                LD      A,0FFH
17B1  77         C                LD      (HL),A
17B2  CD 28DA    C                CALL    FGOFDEC
17B5  7B         C                LD      A,E
17B6  FE 01      C                CP      01H
17B8  CA 17C5    C                JP      Z,DE17
17BB  FE 02      C                CP      02H
17BD  CA 17CA    C                JP      Z,DE27
17C0  FE 03      C                CP      03H
17C2  CA 17CF    C                JP      Z,DE37
17C5  16 4F      C DE17:          LD      D,4FH
17C7  C3 17D1    C                JP      NS007
17CA  16 4B      C DE27:          LD      D,4BH
17CC  C3 17D1    C                JP      NS007
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```
17CF  16 4A      C DE37:          LD      D,4AH
17D1  CD 2A0C    C NS007:         CALL    FDSWT00
17D4  7B         C                LD      A,E
17D5  FE FF      C                CP      0FFH
17D7  CA 17DD    C                JP      Z,UNTRANSF7
17DA  C3 1901    C                JP      CANTRANSF7
17DD             C UNTRANSF7:
                 C ;STORE TS: THAT CONNECT TO SOURCE
17DD  CD 2866    C                CALL    SCNRAM
17E0  CD 2EFE    C                CALL    STREXTS
17E3  CD 0174    C                CALL    READRAM
17E6  0C         C                INC     C
17E7  78         C                LD      A,B
17E8  C6 60      C                ADD     A,60H
17EA  57         C                LD      D,A
17EB  CD 29F7    C                CALL    SWT00
17EE  CD 2A04    C                CALL    CSWT00
17F1  1E 0D      C                LD      E,0DH
17F3  CD 30CB    C                CALL    INCOMM
17F6  CD 29A7    C                CALL    HSBST
                 C ;HOLD SOURCE BETWEEN STATION
17F9  1E 79      C                LD      E,79H
17FB  CD 2F20    C                CALL    STRSTATE
17FE  C3 184D    C                JP      OUT71
1801  CD 2866    C CANTRANSF7:    CALL    SCNRAM
1804  CD 2EFE    C                CALL    STREXTS
1807  CD 0174    C                CALL    READRAM
180A  16 2E      C                LD      D,2EH
180C  CD 29F7    C                CALL    SWT00
180F  16 2F      C                LD      D,2FH
1811  CD 2A04    C                CALL    CSWT00
1814  0C         C                INC     C
1815  78         C                LD      A,B
1816  C6 60      C                ADD     A,60H
1818  57         C                LD      D,A
1819  CD 29F7    C                CALL    SWT00
181C  CD 2A04    C                CALL    CSWT00
181F  0C         C                INC     C
1820  CD 28DA    C                CALL    F00FDEC
1823  7B         C                LD      A,E
1824  FE 01      C                CP      01H
1826  CA 1833    C                JP      Z,DEC017
1829  FE 02      C                CP      02H
182B  CA 1838    C                JP      Z,DEC027
182E  FE 03      C                CP      03H
1830  CA 183D    C                JP      Z,DEC037
1833  16 4F      C DEC017:        LD      D,4FH
1835  C3 183F    C                JP      NES07
1838  16 48      C DEC027:        LD      D,48H
183A  C3 183F    C                JP      NES07
183D  16 4A      C DEC037:        LD      D,4AH
183F  CD 29F7    C NES07:         CALL    SWT00
1842  CD 2A04    C                CALL    CSWT00
1845  CD 29A7    C                CALL    HSBST
                 C ;HOLD SOURCE BETWEEN STATION
1848  1E 72      C                LD      E,72H
```

```
184A  CD 2F2B     C              CALL    STRSTATE
184D  CD 0968     C OUT71:       CALL    CLRSET
1850  CD 2ABB     C              CALL    POLLCLR
1853  C3 01CB     C              JP      SCAN
                  C
1856              C STATE72:     ;
1856  CD 0968     C              CALL    CLRSET
1859  CD 2ABB     C              CALL    POLLCLR
185C  CD 28DA     C              CALL    FGOFDEC
185F  7B          C              LD      A,E
1860  FE 01       C              CP      01H
1862  CA 186F     C              JP      Z,GROUP17
1865  FE 02       C              CP      02H
1867  CA 1884     C              JP      Z,GROUP27
186A  FE 03       C              CP      03H
186C  CA 188D     C              JP      Z,GROUP37
186F  CD 283E     C GROUP17:     CALL    SETCLRF
1872  3E D0       C              LD      A,0D0H
1874  D3 01       C              OUT     (01H),A
1876  3E 0F       C              LD      A,0FH
1878  EE C0       C              XOR     0C0H
187A  57          C              LD      D,A
187B  D3 42       C              OUT     (42H),A
187D  3E D0       C              LD      A,0D0H
187F  D3 01       C              OUT     (01H),A
1881  C3 1893     C              JP      NS72
1884  CD 2855     C GROUP27:     CALL    SETCLRB
1887  CD 2897     C              CALL    POLLSETB
188A  C3 1893     C              JP      NS72
188D  CD 286C     C GROUP37:     CALL    SETCLRA
1890  CD 2896     C              CALL    POLLSETA
1893  3E 0A       C NS72:        LD      A,0AH
1895  3D          C .97:         DEC     A
1896  FE 00       C              CP      00H
1898  C2 1895     C              JP      NZ,.97
189B  1E 00       C              LD      E,00H
189D  DB 02       C RDSHP1:      IN      A,(02H)
189F  57          C              LD      D,A
18A0  E6 10       C              AND     10H
18A2  FE 10       C              CP      10H
18A4  CA 18AD     C              JP      Z,CDSHP
18A7  7A          C              LD      A,D
18A8  FE 0C       C              CP      0CH
18AA  CA 18EA     C              JP      Z,DSHARP17
18AD  7B          C CDSHP:       LD      A,E
18AE  FE 09       C              CP      09H
18B0  CA 18B7     C              JP      Z,EXIT07
18B3  1C          C              INC     E
18B4  C3 189D     C              JP      RDSHP1
18B7  CD 28DA     C EXIT07:      CALL    FGOFDEC
18BA  7B          C              LD      A,E
18BB  FE 01       C              CP      01H
18BD  CA 18CA     C              JP      Z,ED17
18C0  FE 02       C              CP      02H
18C2  CA 18D3     C              JP      Z,ED27
18C5  FE 03       C              CP      03H
```

```
18C7  CA 18DC     C              JP      Z,ED37
18CA  CD 0983     C ED17:        CALL    CLRSETF
18CD  CD 2AD5     C              CALL    POLLCLRF
18D0  C3 18E2     C              JP      072
18D3  CD 28A5     C ED27:        CALL    CLRSETB
18D6  CD 2AEA     C              CALL    POLLCLRB
18D9  C3 18E2     C              JP      072
18DC  CD 28C0     C ED37:        CALL    CLRSETA
18DF  CD 2AFF     C              CALL    POLLCLRA
18E2  1E 72       C 072:         LD      E,72H
18E4  CD 2F20     C              CALL    STRSTATE
18E7  C3 01CB     C              JP      SCAN
18EA  CD 2866     C DSHARP17:    CALL    SCNRAM
18ED  0D          C              DEC     C
18EE  16 00       C              LD      D,00H
18F0  CD 29F7     C              CALL    SWT00
18F3  16 00       C              LD      D,00H
18F5  CD 2AB4     C              CALL    CSWTB0
18F8  CD 20DA     C              CALL    FGOFDEC
18FB  7B          C              LD      A,E
18FC  FE 01       C              CP      01H
18FE  CA 190B     C              JP      Z,GR17
1901  FE 02       C              CP      02H
1903  CA 1914     C              JP      Z,GR27
1906  FE 03       C              CP      03H
1908  CA 191D     C              JP      Z,GR37
190B  CD 0983     C GR17:        CALL    CLRSETF
190E  CD 2AD5     C              CALL    POLLCLRF
1911  C3 1923     C              JP      OUT72
1914  CD 28A5     C GR27:        CALL    CLRSETB
1917  CD 2AEA     C              CALL    POLLCLRB
191A  C3 1923     C              JP      OUT72
191D  CD 28C0     C GR37:        CALL    CLRSETA
1920  CD 2AFF     C              CALL    POLLCLRA
1923  1E 73       C OUT72:       LD      E,73H
1925  CD 2F20     C              CALL    STRSTATE
1928  CD 0968     C              CALL    CLRSET
192B  CD 2ABB     C              CALL    POLLCLR
192E  C3 01CB     C              JP      SCAN
              C
1931              C STATE74:     ;
                  C ;DETECT 1ST NO. INTO ADDRESS 405C
1931  CD 0968     C              CALL    CLRSET
1934  CD 2ABB     C              CALL    POLLCLR
1937  CD 20DA     C              CALL    FGOFDEC
193A  7B          C              LD      A,E
193B  FE 01       C              CP      01H
193D  CA 194A     C              JP      Z,GROUP117
1940  FE 02       C              CP      02H
1942  CA 195F     C              JP      Z,GROUP227
1945  FE 03       C              CP      03H
1947  CA 1968     C              JP      Z,GROUP337
194A  CD 2B3E     C GROUP117:    CALL    SETCLRF
194D  3E D0       C              LD      A,0D0H
194F  D3 81       C              OUT     (81H),A
1951  3E 0F       C              LD      A,0FH
```

```
1953  EE C0      C                XOR     0C0H
1955  57         C                LD      D,A
1956  D3 42      C                OUT     (42H),A
1958  3E 00      C                LD      A,000H
195A  D3 81      C                OUT     (81H),A
195C  C3 196E    C                JP      NS721
195F  CD 2B55    C GROUP227:      CALL    SETCLRB
1962  CD 2B87    C                CALL    POLLSETB
1965  C3 196E    C                JP      NS721
1968  CD 2B6C    C GROUP337:      CALL    SETCLRA
196B  CD 2AFF    C                CALL    POLLCLRA
196E  3E 0A      C NS721:         LD      A,0AH
1970  3D         C .917:          DEC     A
1971  FE 00      C                CP      00H
1973  C2 1970    C                JP      NZ,.917
1976  1E 00      C                LD      E,00H
1978  DB 82      C INAGAIN7:      IN      A,(82H)
197A  57         C                LD      D,A
197B  1C         C                INC     E
197C  E6 10      C                AND     10H
197E  FE 10      C                CP      10H
1980  CA 1986    C                JP      Z,RAGAIN7
1983  C3 198F    C                JP      READ7
1986  7B         C RAGAIN7:       LD      A,E
1987  FE 08      C                CP      08H
1989  C2 1978    C                JP      NZ,INAGAIN7
198C  C3 1A34    C                JP      EXIT74
198F  7A         C READ7:         LD      A,D
1990  FE 0C      C                CP      0CH
1992  CA 1A34    C                JP      Z,EXIT74
1995  26 4B      C                LD      H,4BH
1997  78         C                LD      A,B
1998  C6 7A      C                ADD     A,7AH
199A  6F         C                LD      L,A
199B  7E         C                LD      A,(HL)
199C  FE FF      C                CP      0FFH
199E  CA 19A4    C                JP      Z,STR1ND7
19A1  C3 19AE    C                JP      CHK2ND7
19A4  26 4B      C STR1ND7:       LD      H,4BH
19A6  78         C                LD      A,B
19A7  C6 7A      C                ADD     A,7AH
19A9  6F         C                LD      L,A
19AA  72         C                LD      (HL),D
19AB  C3 1A6A    C                JP      STRS81
19AE  CD 2F28    C CHK2ND7:       CALL    READSTATE
19B1  FE 82      C                CP      82H
19B3  CA 19B9    C                JP      Z,NDEC2ND7
19B6  C3 1A6A    C                JP      STRS81
19B9  26 0B      C NDEC2ND7:      LD      H,0BH
19BB  78         C                LD      A,B
19BC  C6 7A      C                ADD     A,7AH
19BE  6F         C                LD      L,A
19BF  72         C                LD      (HL),D
19C0  26 4B      C                LD      H,4BH
19C2  78         C                LD      A,B
19C3  C6 7A      C                ADD     A,7AH
```

```
19C5  6F          C               LD      L,A
19C6  7E          C               LD      A,(HL)
19C7  FE 0A       C               CP      0AH
19C9  CA 19DE     C               JP      Z,INS017
19CC  E6 02       C               AND     02H
19CE  CA 19F4     C               JP      Z,ALLBUSY7
19D1  E6 04       C               AND     04H
19D3  CA 19F4     C               JP      Z,ALLBUSY7
19D6  E6 08       C               AND     08H
19D8  CA 19F4     C               JP      Z,ALLBUSY7
19DB  C3 19E7     C               JP      JUMP017
19DE  26 40       C INS017:       LD      H,40H
19E0  78          C               LD      A,B
19E1  C6 7A       C               ADD     A,7AH
19E3  6F          C               LD      L,A
19E4  3E 00       C               LD      A,00H
19E6  77          C               LD      (HL),A
19E7  07          C JUMP017:      RLCA
19E8  07          C               RLCA
19E9  07          C               RLCA
19EA  07          C               RLCA
19EB  E6 F0       C               AND     0F0H
19ED  AA          C               XOR     D
19EE  CD 27F8     C               CALL    CV16BASE
19F1  C3 19F6     C               JP      LOADTR7
19F4              C ALLBUSY7:     ;
                  C ;THIS ROUTINE DV: TO NO. E
                  C ;SO USER ALWAYS RECEIVE BUSY
19F4  1E 0E       C               LD      D,0EH
19F6  5A          C LOADTR7:      LD      E,D
19F7  CD 2969     C               CALL    STRTRANSF
19FA  50          C               LD      D,B
19FB  CD 2961     C               CALL    RTRANSF
19FE  47          C               LD      B,A
19FF  CD 2F28     C               CALL    READSTATE
1A02  FE 00       C               CP      00H
1A04  CA 1A18     C               JP      Z,TRIDLE7
1A07  42          C               LD      B,D
1A08  CD 2966     C               CALL    SCNRAM
1A0B  1E 0D       C               LD      E,0DH
1A0D  CD 38CB     C               CALL    INCOMM
1A10  1E 7C       C               LD      E,7CH
1A12  CD 2F20     C               CALL    STRSTATE
1A15  C3 1A34     C               JP      EXIT74
1A18  42          C TRIDLE7:      LD      B,D
1A19  CD 2966     C               CALL    SCNRAM
1A1C  1E 0E       C               LD      E,0EH
1A1E  CD 38CB     C               CALL    INCOMM
1A21  1E 75       C               LD      E,75H
1A23  CD 2F20     C               CALL    STRSTATE
1A26  50          C               LD      D,B
1A27  CD 2961     C               CALL    RTRANSF
1A2A  47          C               LD      B,A
1A2B  1E 76       C               LD      E,76H
1A2D  CD 2F20     C               CALL    STRSTATE
1A30  42          C               LD      B,D
```

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1A31  C3 1A34     C             JP      EXIT74
1A34  CD 2F28     C EXIT74:     CALL    READSTATE
1A37  FE 01       C             CP      01H
1A39  CA 1A9D     C             JP      Z,STRS02
1A3C  CD 28DA     C             CALL    FGOFDEC
1A3F  7B          C             LD      A,E
1A40  FE 01       C             CP      01H
1A42  CA 1A4F     C             JP      Z,GR017
1A45  FE 02       C             CP      02H
1A47  CA 1A58     C             JP      Z,GR027
1A4A  FE 03       C             CP      03H
1A4C  CA 1A61     C             JP      Z,GR037
1A4F  CD 09B3     C GR017:      CALL    CLRSETF
1A52  CD 2AD5     C             CALL    POLLCLRF
1A55  C3 01CB     C             JP      SCAN
1A58  CD 29A5     C GR027:      CALL    CLRSETB
1A5B  CD 2AEA     C             CALL    POLLCLRB
1A5E  C3 01CB     C             JP      SCAN
1A61  CD 29C0     C GR037:      CALL    CLRSETA
1A64  CD 2AFF     C             CALL    POLLCLRA
1A67  C3 01CB     C             JP      SCAN
1A6A  1E 01       C STRS01:     LD      E,01H
1A6C  CD 2F28     C             CALL    STRSTATE
1A6F  CD 28DA     C             CALL    FGOFDEC
1A72  7B          C             LD      A,E
1A73  FE 01       C             CP      01H
1A75  CA 1AB2     C             JP      Z,DGR1
1A78  FE 02       C             CP      02H
1A7A  CA 1A9B     C             JP      Z,DGR2
1A7D  FE 03       C             CP      03H
1A7F  CA 1A94     C             JP      Z,DGR3
1A82  CD 09B3     C DGR1:       CALL    CLRSETF
1A85  CD 2AD5     C             CALL    POLLCLRF
1A88  C3 1A9A     C             JP      NEG7
1A8B  CD 29A5     C DGR2:       CALL    CLRSETB
1A8E  CD 2AEA     C             CALL    POLLCLRB
1A91  C3 1A9A     C             JP      NEG7
1A94  CD 29C0     C DGR3:       CALL    CLRSETA
1A97  CD 2AFF     C             CALL    POLLCLRA
1A9A  C3 01CB     C NEG7:       JP      SCAN
1A9D  1E 02       C STRS02:     LD      E,02H
1A9F  CD 2F28     C             CALL    STRSTATE
1AA2  CD 28DA     C             CALL    FGOFDEC
1AA5  7B          C             LD      A,E
1AA6  FE 01       C             CP      01H
1AA8  CA 1AB5     C             JP      Z,DGR11
1AAB  FE 02       C             CP      02H
1AAD  CA 1ABE     C             JP      Z,DGR21
1AB0  FE 03       C             CP      03H
1AB2  CA 1AC7     C             JP      Z,DGR31
1AB5  CD 09B3     C DGR11:      CALL    CLRSETF
1AB8  CD 2AD5     C             CALL    POLLCLRF
1ABB  C3 1ACD     C             JP      NEG8
1ABE  CD 29A5     C DGR21:      CALL    CLRSETB
1AC1  CD 2AEA     C             CALL    POLLCLRB
1AC4  C3 1ACD     C             JP      NEG8
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1AC7  CD 28C0     C DBR31:        CALL    CLRSETA
1ACA  CD 2AFF     C               CALL    POLLCLRA
1ACD  C3 01CB     C NEG8:         JP      SCAN
                  C
1AD0              C STATE75:      ;
1AD0  50          C               LD      D,B
1AD1  CD 2961     C               CALL    RTRANSF
1AD4  47          C               LD      B,A
1AD5  CD 2F29     C               CALL    READSTATE
1AD8  FE 78       C               CP      78H
1ADA  CA 1AEC     C               JP      Z,TROFH7
1ADD  42          C               LD      B,D
1ADE  1E 75       C               LD      E,75H
1AE0  CD 2F20     C               CALL    STRSTATE
1AE3  CD 0969     C               CALL    CLRSET
1AE6  CD 2ABB     C               CALL    POLLCLR
1AE9  C3 01C9     C               JP      SCAN
1AEC  42          C TROFH7:       LD      B,D
1AED  CD 2866     C               CALL    SCNRAM
1AF0  CD 2961     C               CALL    RTRANSF
1AF3  5F          C               LD      E,A
1AF4  CD 30C0     C               CALL    INCOMM
1AF7  1E 77       C               LD      E,77H
1AF9  CD 2F20     C               CALL    STRSTATE
1AFC  CD 0969     C               CALL    CLRSET
1AFF  CD 2ABB     C               CALL    POLLCLR
1B02  C3 01C9     C               JP      SCAN
                  C
1B05              C STATE76:
1B05  CD 2F50     C               CALL    CRING
1B08  1E 78       C               LD      E,78H
1B0A  CD 2F20     C               CALL    STRSTATE
1B0D  CD 0968     C               CALL    CLRSET
1B10  CD 2ABB     C               CALL    POLLCLR
1B13  C3 01C9     C               JP      SCAN
                  C
1B16              C STATE79:      ;
1B16  16 FF       C               LD      D,0FFH
1B18  CD 2951     C               CALL    STRTIMER
1B1B  1E 03       C               LD      E,03H
1B1D  CD 30FD     C               CALL    CLRTS
1B20  CD 2FB6     C               CALL    RDEXTS
1B23  78          C               LD      A,B
1B24  C6 E0       C               ADD     A,0E0H
1B26  57          C               LD      D,A
1B27  CD 29F7     C               CALL    SWTB0
1B2A  CD 2A04     C               CALL    CSWT90
1B2D  1E 79       C               LD      E,79H
1B2F  CD 2F20     C               CALL    STRSTATE
1B32  CD 0968     C               CALL    CLRSET
1B35  CD 2ABB     C               CALL    POLLCLR
1B38  C3 01C9     C               JP      SCAN
                  C
1B3B              C STATE7A:
1B3B  16 FF       C               LD      D,0FFH
1B3D  CD 2951     C               CALL    STRTIMER
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```
1B40    1E 03       C               LD      E,03H
1B42    CD 30FD     C               CALL    CLRTS
1B45    CD 2F06     C               CALL    RDEXTS
1B48    78          C               LD      A,B
1B49    C6 EB       C               ADD     A,0EBH
1B4B    57          C               LD      D,A
1B4C    CD 29F7     C               CALL    SWT90
1B4F    CD 2A04     C               CALL    CSWT90
1B52    1E 70       C               LD      E,70H
1B54    CD 2F20     C               CALL    STRSTATE
1B57    50          C               LD      D,B
1B58    CD 2961     C               CALL    RTRANSF
1B5B    47          C               LD      B,A
1B5C    1E 00       C               LD      E,00H
1B5E    CD 2F20     C               CALL    STRSTATE
1B61    42          C               LD      B,D
1B62    CD 0968     C               CALL    CLRSET
1B65    CD 2A8B     C               CALL    POLLCLR
1B68    C3 01CB     C               JP      SCAN
                    C
1B6B                C STATE91:      ;
1B6B    F3          C               DI
1B6C    1E 92       C               LD      E,92H
1B6E    CD 2F20     C               CALL    STRSTATE
1B71    CD 0968     C               CALL    CLRSET
1B74    CD 2A8B     C               CALL    POLLCLR
1B77    C3 01CB     C               JP      SCAN
                    C
1B7A                C STATE94:              ;CONNECT
                    C ;RESERVI TO RB
                    C ;CHANGE RESERVI TO 0AH
                    C ;CHANGE RESERVED  TO 0F5H
1B7A    F3          C               DI
1B7B    CD 2F50     C               CALL    CRING
1B7E    50          C               LD      D,B
1B7F    26 40       C               LD      H,40H
1B81    78          C               LD      A,B
1B82    C6 D4       C               ADD     A,0D4H
1B84    6F          C               LD      L,A
1B85    46          C               LD      B,(HL)
1B86    CD 2F28     C               CALL    READSTATE
1B89    FE 00       C               CP      00H
1B8B    CA 1B97     C               JP      Z,RSIDLE
1B8E    42          C               LD      B,D
1B8F    1E 00       C NRSIDLE:      LD      E,00H
1B91    CD 2F20     C               CALL    STRSTATE
1B94    C3 1BF3     C               JP      OUTS94
1B97    42          C RSIDLE:       LD      B,D
1B98    CD 2A41     C               CALL    F6TSID
1B9B    7B          C               LD      A,E
1B9C    FE FF       C               CP      0FFH
1B9E    CA 1B8F     C               JP      Z,NRSIDLE
1BA1    0C          C               INC     C
1BA2    78          C               LD      A,B
1BA3    C6 60       C               ADD     A,60H
1BA5    57          C               LD      D,A
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19A6  CD 29F7    C          CALL    SWT90
19A9  CD 2A04    C          CALL    CSWT90
19AC  1E 0E      C          LD      E,0EH
19AE  CD 30C9    C          CALL    INCOMM
19B1  58         C          LD      D,B
19B2  26 40      C          LD      H,40H
19B4  78         C          LD      A,B
19B5  C6 D4      C          ADD     A,0D4H
19B7  6F         C          LD      L,A
19B8  46         C          LD      B,(HL)
19B9  1E F5      C          LD      E,0F5H
19BB  CD 2F20    C          CALL    STRSTATE
19BE  42         C          LD      B,D
19BF  1E 06      C          LD      E,06H
19C1  CD 2F20    C          CALL    STRSTATE
19C4  16 FF      C          LD      D,0FFH
19C6  CD 2951    C          CALL    STRTIMER
19C9  CD 2959    C          CALL    STRTIMER2
19CC  26 40      C          LD      H,40H
19CE  78         C          LD      A,B
19CF  C6 D4      C          ADD     A,0D4H
19D1  6F         C          LD      L,A
19D2  5E         C          LD      E,(HL)
19D3  26 80      C          LD      H,80H
19D5  78         C          LD      A,B
19D6  C6 B6      C          ADD     A,0B6H
19D8  6F         C          LD      L,A
19D9  73         C          LD      (HL),E
19DA  1E FF      C          LD      E,0FFH
19DC  26 80      C          LD      H,80H
19DE  78         C          LD      A,B
19DF  C6 99      C          ADD     A,99H
19E1  6F         C          LD      L,A
19E2  73         C          LD      (HL),E
19E3  26 40      C          LD      H,40H
19E5  78         C          LD      A,B
19E6  C6 5C      C          ADD     A,5CH
19E8  6F         C          LD      L,A
19E9  73         C          LD      (HL),E
19EA  CD 0959    C          CALL    CLRSET
19ED  CD 2AB8    C          CALL    POLLCLR
19F0  C3 01CB    C          JP      SCAN
                 C
19F3             C DUTSS94: ;RESET TIMER
19F3  16 FF      C          LD      D,0FFH
19F5  CD 2951    C          CALL    STRTIMER
19F8  CD 2959    C          CALL    STRTIMER2
19FB  1E FF      C          LD      E,0FFH
19FD  26 80      C          LD      H,80H
19FF  78         C          LD      A,B
1A00  C6 98      C          ADD     A,98H
1A02  6F         C          LD      L,A
1A03  73         C          LD      (HL),E
1A04  78         C          LD      A,B
1A05  C6 B6      C          ADD     A,0B6H
1A07  6F         C          LD      L,A
```

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1C08  73          C              LD      (HL),E
1C09  26 40       C              LD      H,40H
1C0B  78          C              LD      A,B
1C0C  C6 5C       C              ADD     A,5CH
1C0E  6F          C              LD      L,A
1C0F  73          C              LD      (HL),E
1C10  CD 0968     C              CALL    CLRSET
1C13  CD 2ABB     C              CALL    POLLCLR
1C16  C3 01CB     C              JP      SCAN
                  C
1C19              C CLRST0D:     ;CLEAR TS; THAT CONNECT TC
1C19  CD 2B66     C              CALL    SCNRAM
1C1C  16 00       C              LD      D,00H
1C1E  CD 29F7     C              CALL    SWT00
1C21  16 FF       C              LD      D,0FFH
1C23  CD 2A04     C              CALL    CSWT00
1C26  0D          C              DEC     C
1C27  16 00       C              LD      D,00H
1C29  CD 29F7     C              CALL    SWT00
1C2C  16 FF       C              LD      D,0FFH
1C2E  CD 2A04     C              CALL    CSWT00
1C31  3E FF       C              LD      A,0FFH
1C33  32 00FA     C              LD      (DECODE1),A
1C36  32 00FB     C              LD      (DECODE2),A
1C39  26 00       C              LD      H,00H
1C3B  78          C              LD      A,B
1C3C  C6 9B       C              ADD     A,9BH
1C3E  6F          C              LD      L,A
1C3F  3E FF       C              LD      A,0FFH
1C41  77          C              LD      (HL),A
1C42  78          C              LD      A,B
1C43  C6 B6       C              ADD     A,0B6H
1C45  6F          C              LD      L,A
1C46  3E FF       C              LD      A,0FFH
1C48  77          C              LD      (HL),A
1C49  26 40       C              LD      H,40H
1C4B  78          C              LD      A,B
1C4C  C6 5C       C              ADD     A,5CH
1C4E  6F          C              LD      L,A
1C4F  3E FF       C              LD      A,0FFH
1C51  77          C              LD      (HL),A
1C52  1E 00       C              LD      E,00H
1C54  CD 2F20     C              CALL    STRSTATE
1C57  CD 0968     C              CALL    CLRSET
1C5A  CD 2ABB     C              CALL    POLLCLR
1C5D  C3 01CB     C              JP      SCAN
                  C
1C60              C CLRST0E:     ;
1C60  CD 2B66     C              CALL    SCNRAM
1C63  16 00       C              LD      D,00H
1C65  CD 29F7     C              CALL    SWT00
1C68  16 FF       C              LD      D,0FFH
1C6A  CD 2A04     C              CALL    CSWT00
1C6D  0C          C              INC     C
1C6E  16 00       C              LD      D,00H
1C70  CD 29F7     C              CALL    SWT00
```

```
1C73  16 FF      C              LD      D,0FFH
1C75  CD 2A04    C              CALL    CSWT00
1C78  3E FF      C              LD      A,0FFH
1C7A  32 00FA    C              LD      (DECODE1),A
1C7D  32 00F9    C              LD      (DECODE2),A
1C80  26 00      C              LD      H,00H
1C82  78         C              LD      A,B
1C83  C6 98      C              ADD     A,98H
1C85  6F         C              LD      L,A
1C86  3E FF      C              LD      A,0FFH
1C88  77         C              LD      (HL),A
1C89  78         C              LD      A,B
1C8A  C6 B6      C              ADD     A,0B6H
1C8C  6F         C              LD      L,A
1C8D  3E FF      C              LD      A,0FFH
1C8F  77         C              LD      (HL),A
1C90  26 40      C              LD      H,40H
1C92  78         C              LD      A,B
1C93  C6 5C      C              ADD     A,5CH
1C95  6F         C              LD      L,A
1C96  3E FF      C              LD      A,0FFH
1C98  77         C              LD      (HL),A
1C99  1E 00      C          LD          E,00H
1C9B  CD 2F20    C              CALL    STRSTATE
1C9E  CD 0960    C              CALL    CLRSET
1CA1  CD 2ABB    C              CALL    POLLCLR
1CA4  C3 01C0    C              JP      SCAN
                 C
1CA7             C CLRST13:         ;FUNCTION
                 C ;SEND COMMAND 3B IN TS:16
1CA7  CD 2F50    C                  CALL    CRING
1CAA  CD 2866    C                  CALL    SCNRAM
1CAD  16 00      C                  LD      D,00H
1CAF  CD 29F7    C                  CALL    SWTB0
1CB2  3E 0D      C                  LD      A,0DH
1CB4  30         C                  DB      SIM
1CB5  FB         C                  EI
1CB6  3E 40      C INITCSMA11:      LD      A,40H
1CB8  3D         C .H1:             DEC     A
1CB9  FE 00      C                  CP      00H
1CBB  C2 1CB8    C                  JP      NZ,.H1
1CBE  3A 00F6    C CHCSMA11:        LD      A,(CSMA)
1CC1  FE 10      C                  CP      10H
1CC3  CA 1CE1    C                  JP      Z,.2BYTE1
1CC6  3E 09      C                  LD      A,09H
1CC8  32 00F6    C                  LD      (CSMA),A
1CCB  0E 10      C                  LD      C,10H
1CCD  16 A0      C                  LD      D,0A0H
1CCF  CD 29F7    C                  CALL    SWTB0
1CD2  3E 0D      C                  LD      A,0DH
1CD4  30         C                  DB      SIM
1CD5  FB         C                  EI
1CD6  16 10      C                  LD      D,10H
1CD9  CD 2A00    C                  CALL    SSIS
1CDB  CD 3177    C                  CALL    LPDELAY
1CDE  C3 1CBE    C                  JP      CHCSMA11
```

```
1CE1  0E 10      C .2BYTE1:      LD      C,10H
1CE3  16 A0      C               LD      D,0A0H
1CE5  CD 29F7    C               CALL    SWT80
1CE8  3E 0D      C               LD      A,0DH
1CEA  30         C               DB      SIM
1CEB  FB         C               EI
1CEC  CD 2966    C               CALL    SCNRAM
1CEF  16 FF      C               LD      D,0FFH
1CF1  CD 2A04    C               CALL    CSWT80
1CF4  51         C               LD      D,C
1CF5  CD 2A8B    C               CALL    SSIG
1CF8  CD 3177    C               CALL    LPDELAY
1CFB  3A 80F6    C               LD      A,(CSMA)
1CFE  FE 04      C               CP      04H
1D00  CA 1D0B    C               JP      Z,NCSMA11
1D03  FE 11      C               CP      11H
1D05  CA 1D0B    C               JP      Z,NCSMA11
1D08  C3 1CB6    C               JP      INITCSMA11
1D0B  0E 10      C NCSMA11:      LD      C,10H
1D0D  16 A0      C               LD      D,0A0H
1D0F  CD 29F7    C               CALL    SWT80
1D12  3E 0D      C               LD      A,0DH
1D14  30         C               DB      SIM
1D15  FB         C               EI
1D16  16 10      C               LD      D,10H
1D18  CD 2A8B    C               CALL    SSIG
1D1B  CD 3177    C               CALL    LPDELAY
1D1E  3A 80F6    C               LD      A,(CSMA)
1D21  FE 12      C               CP      12H
1D23  CA 1D29    C               JP      Z,NICSMA11
1D26  C3 1D0B    C               JP      NCSMA11
1D29  0E 18      C NICSMA11:     LD      C,18H
1D2B  16 A0      C               LD      D,0A0H
1D2D  CD 29F7    C               CALL    SWT80
1D30  16 FF      C               LD      D,0FFH
1D32  CD 2A8B    C               CALL    SSIG
1D35  1E 00      C               LD      E,00H
1D37  CD 2F20    C               CALL    STRSTATE
1D3A  CD B96B    C               CALL    CLRSET
1D3D  CD 2A8B    C               CALL    POLLCLR
1D40  C3 01CB    C               JP      SCAN
                 C
1D43             C CLRST20:      ;FUNCTION CLEAR TS2 THAT CONNECT TO STATE20
                 C               ;STORE IDLE STATE
1D43  CD 2966    C               CALL    SCNRAM
1D46  16 00      C               LD      D,00H
1D48  CD 29F7    C               CALL    SWT80
1D4B  16 FF      C               LD      D,0FFH
1D4D  CD 2A04    C               CALL    CSWT80
1D50  0C         C               INC     C
1D51  16 00      C               LD      D,00H
1D53  CD 29F7    C               CALL    SWT80
1D56  16 FF      C               LD      D,0FFH
1D58  CD 2A04    C               CALL    CSWT80
1D5B  0C         C               INC     C
1D5C  16 00      C               LD      D,00H
```

```
1D5E  CD 29F7     C
1D61  16 FF       C
1D63  CD 2A04     C
1D66  0C          C
1D67  16 00       C
1D69  CD 29F7     C
1D6C  16 FF       C
1D6E  CD 2A04     C
1D71  1E 00       C
1D73  CD 2F20     C
1D76  CD 0968     C
1D79  CD 2A08     C
1D7C  C3 01C8     C
                  C
1D7F              C CLRST23:
                  C
1D7F  1E 04       C
1D81  CD 30FD     C
1D84  1E 00       C
1D86  CD 2F20     C
1D89  CD 0968     C
1D8C  CD 2A08     C
1D8F  C3 01C8     C
                  C
1D92              C CLRST24:
                  C
1D92  CD 2866     C
1D95  16 00       C
1D97  CD 29F7     C
1D9A  16 FF       C
1D9C  CD 2A04     C
1D9F  0C          C
1DA0  0C          C
1DA1  16 00       C
1DA3  CD 29F7     C
1DA6  16 FF       C
1DA8  CD 2A04     C
1DAB  1E 00       C
1DAD  CD 2F20     C
1DB0  CD 0968     C
1DB3  CD 2A08     C
1DB6  C3 01C8     C
                  C
1DB9              C CLRST25:
                  C
1DB9  CD 2866     C
1DBC  58          C
1DBD  CD 293C     C
1DC0  C6 60       C
1DC2  57          C
1DC3  CD 29F7     C
1DC6  CD 2A04     C
1DC9  0C          C
1DCA  0C          C
1DCB  16 00       C
1DCD  CD 29F7     C
```

```
CALL    SWTB0
LD      D,0FFH
CALL    CSWTB0
INC     C
LD      D,00H
CALL    SWTB0
LD      D,0FFH
CALL    CSWTB0
LD      E,00H
CALL    STRSTATE
CALL    CLRSET
CALL    POLLCLR
JP      SCAN

;FUNCTION CLEAR TS; THAT CONNECT TO STATE23
;STORE IDLE STATE
LD      E,04H
CALL    CLRTS
LD      E,00H
CALL    STRSTATE
CALL    CLRSET
CALL    POLLCLR
JP      SCAN

;FUNCTION CLEAR TS; THAT CONNEECT  TO STATE24
;STORE IDLE STATE
CALL    SCNRAM
LD      D,00H
CALL    SWTB0
LD      D,0FFH
CALL    CSWTB0
INC     C;DES; CAN PUSH ;
INC     C
LD      D,00H
CALL    SWTB0
LD      D,0FFH
CALL    CSWTB0
LD      E,00H
CALL    STRSTATE
CALL    CLRSET
CALL    POLLCLR
JP      SCAN

;THIS STATE IS ALSO
;TRANSFER CONNECTION
CALL    SCNRAM
LD      E,B
CALL    READSOURCE
ADD     A,60H
LD      D,A
CALL    SWTB0
CALL    CSWTB0
INC     C;CLEAR3 TS;
INC     C
LD      D,00H
CALL    SWTB0
```

```
1DD0  16 FF      C              LD      D,0FFH
1DD2  CD 2A04    C              CALL    CSWTB0
1DD5  0C         C              INC     C
1DD6  16 00      C              LD      D,00H
1DD8  CD 29F7    C              CALL    SWTB0
1DDB  16 FF      C              LD      D,0FFH
1DDD  CD 2A04    C              CALL    CSWTB0
1DE0  0C         C              INC     C
1DE1  16 00      C              LD      D,00H
1DE3  CD 29F7    C              CALL    SWTB0
1DE6  16 FF      C              LD      D,0FFH
1DE8  CD 2A04    C              CALL    CSWTB0
1DEB  53         C              LD      D,E
1DEC  CD 293C    C              CALL    READSOURCE
1DEF  47         C              LD      B,A
1DF0  1E 0E      C              LD      E,0EH
1DF2  CD 2F20    C              CALL    STRSTATE
1DF5  42         C              LD      B,D
1DF6  26 00      C              LD      H,00H
1DF8  78         C              LD      A,B
1DF9  C6 7A      C              ADD     A,7AH
1DFB  6F         C              LD      L,A
1DFC  7E         C              LD      A,(HL)
1DFD  47         C              LD      B,A
1DFE  1E 26      C              LD      E,26H
1E00  CD 2F20    C              CALL    STRSTATE
1E03  42         C              LD      B,D
1E04  1E 00      C              LD      E,00H
1E06  CD 2F20    C              CALL    STRSTATE
1E09  CD 0968    C              CALL    CLRSET
1E0C  CD 2A0B    C              CALL    POLLCLR
1E0F  C3 01CB    C              JP      SCAN
                 C
1E12             C CLRST26:     ;
1E12  CD 2B66    C              CALL    SCNRAM
1E15  16 00      C              LD      D,00H
1E17  CD 29F7    C              CALL    SWTB0
1E1A  16 FF      C              LD      D,0FFH
1E1C  CD 2A04    C              CALL    CSWTB0
1E1F  0C         C              INC     C
1E20  16 00      C              LD      D,00H
1E22  CD 29F7    C              CALL    SWTB0
1E25  16 FF      C              LD      D,0FFH
1E27  CD 2A04    C              CALL    CSWTB0
1E2A  0C         C              INC     C
1E2B  16 00      C              LD      D,00H
1E2D  CD 29F7    C              CALL    SWTB0
1E30  16 FF      C              LD      D,0FFH
1E32  CD 2A04    C              CALL    CSWTB0
1E35  1E 00      C              LD      E,00H
1E37  CD 2F20    C              CALL    STRSTATE
1E3A  CD 0968    C              CALL    CLRSET
1E3D  CD 2A0B    C              CALL    POLLCLR
1E40  C3 01CB    C              JP      SCAN
                 C
1E43             C CLRST4B:     ;DETECT HOOK SWITCH
```

```
1E43  CD 2F5B     C                CALL   CRING
1E46  CD 2941     C                CALL   RTIMER
1E49  7A          C                LD     A,D
1E4A  FE FF       C                CP     0FFH
1E4C  CA 1E66     C                JP     Z,STIMER
1E4F  FE 35       C                CP     35H ;COUNT 25 LOOP
1E51  CA 1E79     C                JP     Z,CLRS4B
1E54  14          C                INC    D
1E55  CD 2951     C                CALL   STRTIMER
                  C ;INTERVAL OF HOOK SWITCH
1E58  1E 41       C                LD     E,41H
1E5A  CD 2F20     C                CALL   STRSTATE
1E5D  CD 0969     C                CALL   CLRSET
1E60  CD 2ABB     C                CALL   POLLCLR
1E63  C3 01CB     C                JP     SCAN
1E66  16 00       C STIMER:        LD     D,00H
1E68  CD 2951     C                CALL   STRTIMER
1E6B  1E 41       C                LD     E,41H
1E6D  CD 2F20     C                CALL   STRSTATE
1E70  CD 0969     C                CALL   CLRSET
1E73  CD 2ABB     C                CALL   POLLCLR
1E76  C3 01CB     C                JP     SCAN
1E79  16 FF       C CLRS4B:        LD     D,0FFH
1E7B  CD 2951     C                CALL   STRTIMER
                  C ;OVER INTERVAL OF HOOK SWITCH
1E7E  CD 2966     C                CALL   SCNRAM
1E81  79          C                LD     A,C
1E82  FE 1E       C                CP     1EH
1E84  CA 1E8A     C                JP     Z,ACB
1E87  CD 2971     C                CALL   CLRSTS
1E8A  1E 00       C ACB:           LD     E,00H
1E8C  CD 2F20     C                CALL   STRSTATE
1E8F  CD 0969     C                CALL   CLRSET
1E92  CD 2ABB     C                CALL   POLLCLR
1E95  C3 01CB     C                JP     SCAN
                  C
1E98              C CLRST5B:       ;
1E98  CD 2941     C                CALL   RTIMER
1E9B  7A          C                LD     A,D
1E9C  FE FF       C                CP     0FFH
1E9E  CA 1EB8     C                JP     Z,STIMER5B
1EA1  FE 3B       C                CP     3BH
1EA3  CA 1EC8     C                JP     Z,CLRS5B
1EA6  14          C                INC    D
1EA7  CD 2951     C                CALL   STRTIMER
1EAA  1E 51       C                LD     E,51H
1EAC  CD 2F20     C                CALL   STRSTATE
1EAF  CD 0969     C                CALL   CLRSET
1EB2  CD 2ABB     C                CALL   POLLCLR
1EB5  C3 01C9     C                JP     SCAN
1EB8  16 00       C STIMER5B:      LD     D,00H
1EBA  CD 2951     C                CALL   STRTIMER
1EBD  1E 51       C                LD     E,51H
1EBF  CD 2F20     C                CALL   STRSTATE
1EC2  CD 0969     C                CALL   CLRSET
1EC5  CD 2ABB     C                CALL   POLLCLR
```

```
1EC8  C3 01CB     C               JP      SCAN
                  C
1ECB  16 FF       C CLRSSB:       LD      D,0FFH
1ECD  CD 2951     C               CALL    STRTIMER
1ED0  CD 2B66     C               CALL    SCNRAM
1ED3  79          C               LD      A,C
1ED4  FE 1E       C               CP      1EH
1ED6  CA 1EE9     C               JP      Z,ACSB
1ED9  0D          C               DEC     C
1EDA  26 00       C               LD      H,00H
1EDC  69          C               LD      L,C
1EDD  7E          C               LD      A,(HL)
1EDE  E6 0F       C               AND     0FH
1EE0  FE 0C       C               CP      0CH
1EE2  CA 1EF7     C               JP      Z,ACSB1
1EE5  0C          C               INC     C
1EE6  CD 2971     C               CALL    CLRSTS
1EE9  1E 00       C ACSB:         LD      E,00H
1EEB  CD 2F20     C               CALL    STRSTATE
1EEE  CD 0968     C               CALL    CLRSET
1EF1  CD 2ABB     C               CALL    POLLCLR
1EF4  C3 01CB     C               JP      SCAN
1EF7              C ACSB1:        ;CLEAR
                  C ;RELAY FROM PSTN
1EF7  16 00       C               LD      D,00H
1EF9  CD 29F7     C               CALL    SWTSB
1EFC  16 FF       C               LD      D,0FFH
1EFE  CD 2A04     C               CALL    CSWTBB
1F01  0C          C               INC     C
1F02  16 00       C               LD      D,00H
1F04  CD 29F7     C               CALL    SWTBB
1F07  16 FF       C               LD      D,0FFH
1F09  CD 2A04     C               CALL    CSWTBB
1F0C  0C          C               INC     C
1F0D  16 00       C               LD      D,00H
1F0F  CD 29F7     C               CALL    SWTBB
1F12  16 FF       C               LD      D,0FFH
1F14  CD 2A04     C               CALL    CSWTBB
1F17  58          C               LD      B,B
1F18  06 0C       C               LD      B,0CH
1F1A  1E FF       C               LD      E,0FFH
1F1C  CD 2F20     C               CALL    STRSTATE
1F1F  CD 2F9C     C               CALL    OFFRELAY
1F22  42          C               LD      B,D
1F23  C3 1EE9     C               JP      ACSB
1F26              C CLRST47:      ;
                  C ;CLEAR TS: OF DES. DV:
                  C ;CANCEL HOLD STATE
                  C ;CONNECT SOURCE TO TRANSFERED DV:
1F26  58          C               LD      D,B
1F27  CD 293C     C               CALL    READSOURCE
1F2A  47          C               LD      B,A
1F2B  CD 2B66     C               CALL    SCNRAM
1F2E  42          C               LD      B,D;RETURN DV:
1F2F  16 00       C               LD      D,00H
1F31  CD 29F7     C               CALL    SWTBB
```

```
1F34  16 FF      C              LD      D,0FFH
1F36  CD 2A04    C              CALL    CSWTB0
1F39  0D         C              DEC     C
1F3A  16 00      C              LD      D,00H
1F3C  CD 29F7    C              CALL    SWTB0
1F3F  16 FF      C              LD      D,0FFH
1F41  CD 2A04    C              CALL    CSWTB0
1F44  0D         C              DEC     C
1F45  16 00      C              LD      D,00H
1F47  CD 29F7    C              CALL    SWTB0
1F4A  16 FF      C              LD      D,0FFH
1F4C  CD 2A04    C              CALL    CSWTB0
1F4F  CD 2866    C              CALL    SCNRAM
                 C ;FIND TS. OF DES. NO.
1F52  CD 293C    C              CALL    READSOURCE
1F55  C6 60      C              ADD     A,60H
1F57  57         C              LD      D,A
1F58  CD 29F7    C              CALL    SWTB0
1F5B  CD 2A04    C              CALL    CSWTB0
1F5E  CD 2961    C              CALL    RTRANSF
1F61  5F         C              LD      E,A
1F62  CD 30C8    C              CALL    INCOMM
                 C ; TO STORE DES. DV. STATE 00H
                 C ; TO STORE SOURCE DV. STATE 0AH
                 C ; TO STORE TRANSF DV. STATE 0AH
1F65  58         C              LD      D,B
1F66  CD 293C    C              CALL    READSOURCE
1F69  47         C              LD      B,A
1F6A  1E 0A      C              LD      E,0AH
1F6C  CD 2F20    C              CALL    STRSTATE
1F6F  42         C              LD      B,D;RETURNES. DV.
1F70  CD 2961    C              CALL    RTRANSF
1F73  47         C              LD      B,A
1F74  1E 0A      C              LD      E,0AH
1F76  CD 2F20    C              CALL    STRSTATE
1F79  42         C              LD      B,D
1F7A  1E 00      C              LD      E,00H
1F7C  CD 2F20    C              CALL    STRSTATE
1F7F  CD 0968    C              CALL    CLRSET
1F82  CD 2ABB    C              CALL    POLLCLR
1F85  C3 01C8    C              JP      SCAN
1F88             C CLRST49:     ;THIS STATE
                 C ;WILL RETURN DES. DV. TO SOURCE NO.
                 C ;IF IN INTERVAL OF HOOK SWITCH
1F88  CD 2941    C              CALL    RTIMER
1F8B  7A         C              LD      A,D
1F8C  CA 1FA6    C              JP      Z,STIMER1
1F8F  FE 40      C              CP      40H
1F91  CA 1F99    C              JP      Z,CLRS49
1F94  14         C              INC     D
1F95  CD 2951    C              CALL    STRTIMER
1F98  1E 49      C              LD      E,49H
1F9A  CD 2F20    C              CALL    STRSTATE
1F9D  CD 0968    C              CALL    CLRSET
1FA0  CD 2ABB    C              CALL    POLLCLR
1FA3  C3 01C8    C              JP      SCAN
```

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1FA6    16 00       C STIMER1:      LD      D,00H
1FA8    CD 2951     C               CALL    STRTIMER
1FAB    1E 49       C               LD      E,49H
1FAD    CD 2F2B     C               CALL    STRSTATE
1FB0    CD 0968     C               CALL    CLRSET
1FB3    CD 2ABB     C               CALL    POLLCLR
1FB6    C3 01CB     C               JP      SCAN
1FB9    16 FF       C CLRS49:       LD      D,0FFH
1FBB    CD 2951     C               CALL    STRTIMER
1FBE    CD 2866     C               CALL    SCNRAM
1FC1    79          C               LD      A,C
1FC2    FE 1E       C               CP      1EH
1FC4    CA 1FCA     C               JP      Z,AC1
1FC7    CD 2971     C               CALL    CLRSTS
1FCA    1E 00       C AC1:          LD      E,00H
1FCC    CD 2F2B     C               CALL    STRSTATE
1FCF    CD 0968     C               CALL    CLRSET
1FD2    CD 2ABB     C               CALL    POLLCLR
1FD5    C3 01CB     C               JP      SCAN
                    C
1FD8                C CLRST4A:      ;
                    C ;             THIS STATE WILL
                    C ;RETURN DES. TO SOURCE IF IN
                    C ;INTERVAL OF HOOK SWITCH  AND DIFFERENT
                    C ;FROM ST 49 THAT WILL CLEAR  RING TOO
1FD8    CD 2941     C               CALL    RTIMER
1FDB    7A          C               LD      A,D
1FDC    FE FF       C               CP      0FFH
1FDE    CA 1FF8     C               JP      Z,STIMER2
1FE1    FE 30       C               CP      30H
1FE3    CA 200B     C               JP      Z,CLRS4A
1FE6    14          C               INC     D
1FE7    CD 2951     C               CALL    STRTIMER
1FEA    1E 4A       C               LD      E,4AH
1FEC    CD 2F2B     C               CALL    STRSTATE
1FEF    CD 0968     C               CALL    CLRSET
1FF2    CD 2ABB     C               CALL    POLLCLR
1FF5    C3 01CB     C               JP      SCAN
1FF8    16 00       C STIMER2:      LD      D,00H
1FFA    CD 2951     C               CALL    STRTIMER
1FFD    1E 4A       C               LD      E,4AH
1FFF    CD 2F2B     C               CALL    STRSTATE
2002    CD 0968     C               CALL    CLRSET
2005    CD 2ABB     C               CALL    POLLCLR
2008    C3 01CB     C               JP      SCAN
200B    16 FF       C CLRS4A:       LD      D,0FFH
200D    CD 2951     C               CALL    STRTIMER
2010    CD 2866     C               CALL    SCNRAM
2013    79          C               LD      A,C
2014    FE 1E       C               CP      1EH
2016    CA 201C     C               JP      Z,AC2
2019    CD 2971     C               CALL    CLRSTS
201C    1E 00       C AC2:          LD      E,00H
201E    CD 2F2B     C               CALL    STRSTATE
2021    50          C               LD      D,B
2022    CD 2951     C               CALL    RTRANSF
```

```
2025  47          C               LD      B,A
2026  1E 00       C               LD      E,00H
2028  CD 2F20     C               CALL    STRSTATE
202B  42          C               LD      B,D
202C  CD 0968     C               CALL    CLRSET
202F  CD 2A88     C               CALL    POLLCLR
2032  C3 01C8     C               JP      SCAN
                  C
2035              C CLRST70:      ;DETECT HOOK SWITCH
2035  F3          C               DI
2036  CD 2941     C               CALL    RTIMER
2039  7A          C               LD      A,D
203A  FE FF       C               CP      0FFH
203C  CA 2056     C               JP      Z,STIMER7
203F  FE 40       C               CP      40H
2041  CA 2069     C               JP      Z,CLRS70
2044  14          C               INC     D
2045  CD 2951     C               CALL    STRTIMER
2048  1E 71       C               LD      E,71H
204A  CD 2F20     C               CALL    STRSTATE
204D  CD 0968     C               CALL    CLRSET
2050  CD 2A88     C               CALL    POLLCLR
2053  C3 01C8     C               JP      SCAN
2056  16 00       C STIMER7:      LD      D,00H
2058  CD 2951     C               CALL    STRTIMER
205B  1E 71       C               LD      E,71H
205D  CD 2F20     C               CALL    STRSTATE
2060  CD 0968     C               CALL    CLRSET
2063  CD 2A88     C               CALL    POLLCLR
2066  C3 01C8     C               JP      SCAN
2069  16 FF       C CLRS70:       LD      D,0FFH
206B  CD 2951     C               CALL    STRTIMER
206E  CD 2966     C               CALL    SCNRAM
2071  79          C               LD      A,C
2072  FE 1E       C               CP      1EH
2074  CA 2081     C               JP      Z,AC87
2077  16 00       C               LD      D,00H
2079  CD 29F7     C               CALL    SWT00
207C  16 FF       C               LD      D,0FFH
207E  CD 2A04     C               CALL    CSWT00
2081  1E 00       C AC87:         LD      E,00H
2083  CD 2F20     C               CALL    STRSTATE
2086  CD 0968     C               CALL    CLRSET
2089  CD 2A88     C               CALL    POLLCLR
208C  C3 01C8     C               JP      SCAN
                  C
208F              C CLRST77:
208F  1E 03       C               LD      E,03H
2091  CD 2DFD     C               CALL    CLRTS
2094  CD 2F06     C               CALL    RDEXTS
2097  CD 2961     C               CALL    RTRANSF
209A  C6 EB       C               ADD     A,0EBH
209C  57          C               LD      D,A
209D  CD 29F7     C               CALL    SWT00
20A0  CD 2A04     C               CALL    CSWT00
20A3  50          C               LD      D,B
```

```
20A4  CD 2961     C               CALL    RTRANSF
20A7  47          C               LD      B,A
20A8  1E 0A       C               LD      E,0AH
20AA  CD 2F20     C               CALL    STRSTATE
20AD  42          C               LD      B,D
20AE  1E 00       C               LD      E,00H
20B0  CD 2F20     C               CALL    STRSTATE
20B3  CD 0968     C               CALL    CLRSET
20B6  CD 2ABB     C               CALL    POLLCLR
20B9  C3 01C9     C               JP      SCAN
                  C
20BC              C CLRST79:      ;
                  C ;RETURN SOURCE TO DES.
20BC  CD 2941     C               CALL    RTIMER
20BF  7A          C               LD      A,D
20C0  CA 20DA     C               JP      Z,STIMER17
20C3  FE 40       C               CP      40H
20C5  CA 20ED     C               JP      Z,CLRS79
20C8  14          C               INC     D
20C9  CD 2951     C               CALL    STRTIMER
20CC  1E 79       C               LD      E,79H
20CE  CD 2F20     C               CALL    STRSTATE
20D1  CD 096B     C               CALL    CLRSET
20D4  CD 2ABB     C               CALL    POLLCLR
20D7  C3 01C9     C               JP      SCAN
20DA  16 00       C STIMER17:     LD      D,00H
20DC  CD 2951     C               CALL    STRTIMER
20DF  1E 79       C               LD      E,79H
20E1  CD 2F20     C               CALL    STRSTATE
20E4  CD 0968     C               CALL    CLRSET
20E7  CD 2ABB     C               CALL    POLLCLR
20EA  C3 01C9     C               JP      SCAN
20ED  16 FF       C CLRS79:       LD      D,0FFH
20EF  CD 2951     C               CALL    STRTIMER
20F2  CD 2866     C               CALL    SCNRAM
20F5  79          C               LD      A,C
20F6  FE 1E       C               CP      1EH
20F8  CA 2105     C               JP      Z,AC17
20FB  16 00       C               LD      D,00H
20FD  CD 29F7     C               CALL    SWTB0
2100  16 FF       C               LD      D,0FFH
2102  CD 2A04     C               CALL    CSWTB0
2105  1E 00       C AC17:         LD      E,00H
2107  CD 2F20     C               CALL    STRSTATE
210A  CD 096B     C               CALL    CLRSET
210D  CD 2ABB     C               CALL    POLLCLR
2110  C3 01C9     C               JP      SCAN
                  C
2113              C CLRST7A:      ;
2113  CD 2941     C               CALL    RTIMER
2116  7A          C               LD      A,D
2117  FE FF       C               CP      0FFH
2119  CA 2133     C               JP      Z,STIMER27
211C  FE 40       C               CP      40H
211E  CA 2146     C               JP      Z,CLRS7A
2121  14          C               INC     D
```

```
2122  CD 2951     C                    CALL    STRTIMER
2125  1E 7A       C                    LD      E,7AH
2127  CD 2F2B     C                    CALL    STRSTATE
212A  CD 0968     C                    CALL    CLRSET
212D  CD 2ABB     C                    CALL    POLLCLR
2130  C3 01CB     C                    JP      SCAN
2133  16 00       C STIMER27:          LD      D,00H
2135  CD 2951     C                    CALL    STRTIMER
2138  1E 7A       C                    LD      E,7AH
213A  CD 2951     C                    CALL    STRTIMER
213D  CD 0968     C                    CALL    CLRSET
2140  CD 2ABB     C                    CALL    POLLCLR
2143  C3 01CB     C                    JP      SCAN
2146  16 FF       C CLRS7A:            LD      D,0FFH
2148  CD 2951     C                    CALL    STRTIMER
214B  CD 2B66     C                    CALL    SCNRAM
214E  79          C                    LD      A,C
214F  FE 1E       C                    CP      1EH
2151  CA 215E     C                    JP      Z,AC27
2154  16 00       C                    LD      D,00H
2156  CD 29F7     C                    CALL    SWT90
2159  16 FF       C                    LD      D,0FFH
215B  CD 2A04     C                    CALL    CSWT90
215E  1E 00       C AC27:              LD      E,00H
2160  CD 2F2B     C                    CALL    STRSTATE
2163  50          C                    LD      D,B
2164  CD 2961     C                    CALL    RTRANSF
2167  47          C                    LD      B,A
2169  1E 00       C                    LD      E,00H
216A  CD 2F2B     C                    CALL    STRSTATE
216D  42          C                    LD      B,D
216E  CD 0968     C                    CALL    CLRSET
2171  CD 2ABB     C                    CALL    POLLCLR
2174  C3 01CB     C                    JP      SCAN
              C
2177              C CLRST90:           ;
2177  F3          C                    DI
2178  CD 2F5B     C                    CALL    CRING
217B  CD 2941     C                    CALL    RTIMER
217E  7A          C                    LD      A,D
217F  FE FF       C                    CP      0FFH
2181  CA 219B     C                    JP      Z,STIMER9
2184  FE 40       C                    CP      40H
2186  CA 2184     C                    JP      Z,CLRS90
2189  14          C                    INC     D
218A  CD 2951     C                    CALL    STRTIMER
218D  1E 91       C                    LD      E,91H
218F  CD 2F2B     C                    CALL    STRSTATE
2192  CD 0968     C                    CALL    CLRSET
2195  CD 2ABB     C                    CALL    POLLCLR
2198  C3 01CB     C                    JP      SCAN
219B  CD 2B66     C STIMER9:           CALL    SCNRAM
219E  CD 2971     C                    CALL    CLRSTS
21A1  16 00       C                    LD      D,00H
21A3  CD 2951     C                    CALL    STRTIMER
21A6  1E 91       C                    LD      E,91H
```

```
21A8  CD 2F20    C                CALL   STRSTATE
21AB  CD 0968    C                CALL   CLRSET
21AE  CD 2ABB    C                CALL   POLLCLR
21B1  C3 01CB    C                JP     SCAN
21B4  16 FF      C CLRS9B:        LD     D,0FFH
21B6  CD 2951    C                CALL   STRTIMER
21B9  CD 2966    C                CALL   SCNRAM
21BC  79         C                LD     A,C
21BD  FE 1E      C                CP     1EH
21BF  CA 21C5    C                JP     Z,ACB9
21C2  CD 2971    C                CALL   CLR6TS
21C5  1E FF      C ACB9:          LD     E,0FFH
21C7  26 80      C                LD     H,80H
21C9  78         C                LD     A,B
21CA  C6 98      C                ADD    A,98H
21CC  6F         C                LD     L,A
21CD  73         C                LD     (HL),E
21CE  78         C                LD     A,B
21CF  C6 B6      C                ADD    A,0B6H
21D1  6F         C                LD     L,A
21D2  73         C                LD     (HL),E
21D3  26 40      C                LD     H,40H
21D5  78         C                LD     A,B
21D6  C6 5C      C                ADD    A,5CH
21D8  6F         C                LD     L,A
21D9  73         C                LD     (HL),E
21DA  1E 00      C                LD     E,00H
21DC  CD 2F20    C                CALL   STRSTATE
21DF  CD 0968    C                CALL   CLRSET
21E2  CD 2ABB    C                CALL   POLLCLR
21E5  C3 01CB    C                JP     SCAN
                 C
21E8             C CLRST92:       ;
                 C ;WAIT FOR RESERVED DV; BE 00H
                 C ;CHANGE STATE TO 93H
21E8  F3         C                DI
21E9  1E 93      C                LD     E,93H
21EB  CD 2F20    C                CALL   STRSTATE
21EE  CD 2F58    C                CALL   CRING;CLEAR RING
21F1  50         C                LD     D,B
21F2  26 40      C                LD     H,40H
21F4  78         C                LD     A,B
21F5  C6 D4      C                ADD    A,0D4H
21F7  6F         C                LD     L,A
21F8  46         C                LD     B,(HL)
21F9  CD 2F28    C                CALL   READSTATE
21FC  42         C                LD     B,D
21FD  FE 00      C                CP     00H
21FF  CA 2205    C                JP     Z,DESIDLE9
                 C ;IF ZEROS0 DES .IDLES
2202  C3 2217    C                JP     OUTS92
2205  1E 94      C DESIDLE9:      LD     E,94H
2207  CD 2F20    C                CALL   STRSTATE
220A  CD 2F31    C                CALL   RING
220D  16 00      C                LD     D,00H
220F  CD 2951    C                CALL   STRTIMER
```

```
2212  16 FF     C              LD     D,0FFH
2214  CD 2959   C              CALL   STRTIMER2
                C ;START TIMER FOR 20 S
2217  CD 0968   C OUTS92:      CALL   CLRSET
221A  CD 2AB9   C              CALL   POLLCLR
221D  C3 01CB   C              JP     SCAN
                C
2220            C CLRST94:     ;RINGING
                C ;WAIT FOR RESERVING 0FH
2220  F3        C              DI
2221  CD 2F31   C              CALL   RING
2224  CD 2941   C              CALL   RTIMER
2227  7A        C              LD     A,D
2228  FE FF     C              CP     0FFH
222A  CA 2239   C              JP     Z,NRTIMER2
222D  14        C              INC    D
222E  CD 2951   C              CALL   STRTIMER
2231  1E 94     C              LD     E,94H
2233  CD 2F20   C              CALL   STRSTATE
2236  C3 22A0   C              JP     OUTS94
2239  CD 2949   C NRTIMER2:    CALL   RTIMER2
223C  7A        C              LD     A,D
223D  FE FF     C              CP     0FFH
223F  CA 224F   C              JP     Z,INST2
2242  FE 00     C              CP     00H
2244  CA 226F   C              JP     Z,INCST2
2247  FE D0     C              CP     0D0H
2249  CA 227B   C              JP     Z,T20S
224C  C3 226F   C              JP     INCST2
224F  16 00     C INST2:       LD     D,00H
2251  CD 2959   C              CALL   STRTIMER2
2254  CD 0174   C              CALL   READRAM
2257  0C        C              INC    C
2258  78        C              LD     A,B
2259  C6 60     C              ADD    A,60H
225B  57        C              LD     D,A
225C  CD 29F7   C              CALL   SWTBB
225F  CD 2AB4   C              CALL   CSWTBC
2262  1E 0D     C              LD     E,0DH
2264  CD 30C8   C              CALL   INCOMM
2267  1E 94     C              LD     E,94H
2269  CD 2F20   C              CALL   STRSTATE
226C  C3 22A0   C              JP     OUTS94
226F  14        C INCST2:      INC    D
2270  CD 2959   C              CALL   STRTIMER2
2273  1E 94     C              LD     E,94H
2275  CD 2F20   C              CALL   STRSTATE
2278  C3 22A0   C              JP     OUTS94
227B  CD 2F50   C T20S:        CALL   CRING
227E  16 FF     C              LD     D,0FFH
2280  CD 2951   C              CALL   STRTIMER
2283  CD 2959   C              CALL   STRTIMER2
2286  1E FF     C              LD     E,0FFH
2288  26 80     C              LD     H,80H
228A  78        C              LD     A,B
228B  C6 98     C              ADD    A,98H
```

```
228D    6F          C                       LD      L,A
228E    73          C                       LD      (HL),E
228F    78          C                       LD      A,B
2290    C6 86       C                       ADD     A,086H
2292    6F          C                       LD      L,A
2293    73          C                       LD      (HL),E
2294    26 40       C                       LD      H,40H
2296    78          C                       LD      A,B
2297    C6 5C       C                       ADD     A,5CH
2299    6F          C                       LD      L,A
229A    73          C                       LD      (HL),E
229B    1E 08       C                       LD      E,08H
229D    CD 2F20     C                       CALL    STRSTATE
22A0    CD 0968     C OUTS94:               CALL    CLRSET
22A3    CD 2AB0     C                       CALL    POLLCLR
22A6    C3 01C8     C                       JP      SCAN
                    C
22A9                C SPROTECT:             ;FUNCTION TO
                    C                       ;SEND BUSY TONE
                    C                       ;WHEN IND. ERROR
22A9    CD 2866     C                       CALL    SCNRAN
22AC    78          C                       LD      A,B
22AD    C6 60       C                       ADD     A,60H
22AF    57          C                       LD      D,A
22B0    CD 29F7     C                       CALL    SWTB0
22B3    CD 2A04     C                       CALL    CSWTR0
22B6    1E 0D       C                       LD      E,0DH
22B8    CD 38CB     C                       CALL    INCOMM
22BB    1E 0F       C                       LD      E,0FH
22BD    CD 2F20     C                       CALL    STRSTATE
22C0    CD 0968     C                       CALL    CLRSET
22C3    CD 2AB0     C                       CALL    POLLCLR
22C6    CD 3177     C                       CALL    LPDELAY
22C9    C3 01CB     C                       JP      SCAN
                    C
                    C
                    C
                    C ;********** END OF FILE NO. 2
                    C
                    C
                    C
                    C
                    C
                    C
                    C
                    C
                    C
                    C
                    C
                    C
                    C
                    C
                    C
                    C
                    C
                    C
```

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                        C
                        C
                        C
                        C
                        C
                        C
                        C
                        C
                        C
                        C
                        C                       INCLUDE B:T823.MAC
                        C ;******** START OF FILE  NO. 3
                        C
22CC                    C MSTATE0:              ;MIDLE
22CC    3E 0D           C                       LD      A,0DH           ;SET
22CE    30              C                       DB      SIM
22CF    FB              C                       EI
22D0    CD 2FE9         C                       CALL    CHECKDTR
22D3    3A 00F7         C                       LD      A,(DTR)
22D6    FE 99           C                       CP      99H
22D8    CC 309A         C                       CALL    Z,INITHS                ;INITIAL HANDSHAKE
22DB    CC 0968         C                       CALL    Z,CLRSET
22DE    CC 2ABB         C                       CALL    Z,POLLCLR
22E1    CA 023B         C                       JP      Z,MSCAN
22E4    1E 01           C                       LD      E,01H
22E6    CD 302B         C                       CALL    STRMSTATE
22E9    C3 0035         C                       JP      M1
                        C
22EC                    C MSTATE1:              ;CHECK DTR ,SSEND DSR
22EC    3E 0D           C                       LD      A,0DH                   ;SET RST6.5
22EE    30              C                       DB      SIM
22EF    FB              C                       EI
22F0    CD 2FE9         C                       CALL    CHECKDTR
22F3    3A 00F7         C                       LD      A,(DTR)
22F6    FE 99           C                       CP      99H
22F9    CC 0969         C                       CALL    Z,CLRSET
22FB    CC 2ABB         C                       CALL    Z,POLLCLR
22FE    CA 023B         C                       JP      Z,MSCAN
                        C ;                     IN      A,(02H)
                        C ;                     AND     0FH
                        C ;                     LD      A,02H           ;LOAD STATION NO.
                        C ;                     LD      E,A
                        C ;                     LD      H,00H
                        C ;                     LD      A,B
                        C ;                     XOR     30H
                        C ;                     LD      L,A
                        C ;                     LD      (HL),E
                        C ;                     LD      A,04H
                        C ;                     LD      E,A
                        C ;                     LD      H,00H
                        C ;                     LD      A,B
                        C ;                     XOR     40H
                        C ;                     LD      L,A
                        C ;                     LD      (HL),E
2301    1E 02           C                       LD      E,02H
2303    CD 302B         C                       CALL    STRMSTATE
2306    C3 003B         C                       JP      M2
```

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                        C
2309                    C MSTATE2:      ;CHECK  RTS
2309    3E 0D           C               LD      A,0DH           ;SET RST6.5
2308    30              C               DB      SIM
230C    FB              C               EI
230D    CD 2FE9         C               CALL    CHECKDTR
2310    3A 00F7         C               LD      A,(DTR)
2313    FE 99           C               CP      99H
2315    CC 0968         C               CALL    Z,CLRSET
2318    CC 2ABB         C               CALL    Z,POLLCLR
2318    3E 67           C               LD      A,67H;INITIAL
                        C ;DSR,RFS,RLSD=0
231D    D3 01           C               OUT     (01H),A
231F    3E E7           C               LD      A,0E7H
2321    D3 01           C               OUT     (01H),A
2323    DB 02           C               IN      A,(02H)
2325    E6 0F           C               AND     0FH
2327    FE 0D           C               CP      0DH
2329    CC 0968         C               CALL    Z,CLRSET        ;IF ZERO DTR=1 , RTS =0
232C    CC 2ABB         C               CALL    Z,POLLCLR
232F    CA 0238         C               JP      Z,MSCAN
2332    FE 0C           C               CP      0CH             ;IF ZERO DTR=1 , RTS =1
2334    CA 2345         C               JP      Z,FACE
2337    1E 00           C               LD      E,00H           ;THIS CONDITION ASSUME
2339    CD 3028         C               CALL    STRMSTATE       ;THAT DTR=0
233C    CD 0968         C               CALL    CLRSET
233F    CD 2ABB         C               CALL    POLLCLR
2342    C3 0238         C               JP      MSCAN
2345    3E 55           C FACE:         LD      A,55H           ;IF RECEEIVE RTS = 1
2347    D3 30           C               OUT     (30H),A         ;SEND 55H AT PORT 30H
2349    3E 66           C               LD      A,66H           ;SEND   RFS
234B    D3 01           C               OUT     (01H),A         ;CLK = 0
234D    3E E6           C               LD      A,0E6H
234F    D3 01           C               OUT     (01H),A         ;CLK = 1
                        C ;DSR,RLDS=0,RFS=1
                        C ;             NOP
                        C ;             NOP
                        C ;             NOP
                        C ;             LD      A,67H
                        C ;             OUT     (01H),A
                        C ;             LD      A,0E7H;RFS=0
                        C ;             OUT     (01H),A
2351    26 FF           C               LD      H,0FFH
2353    2E FF           C               LD      L,0FFH
2355    2B              C MORE:         DEC     HL
2356    7C              C               LD      A,H
2357    B5              C               OR      L
2358    CA 23AC         C               JP      Z,OMST2
235B    3E B4           C               LD      A,84H           ;LOAD COMMAND INSTRUCTION
235D    D3 C1           C               OUT     (0C1H),A
235F    DB C1           C               IN      A,(0C1H)
2361    E6 3A           C               AND     3AH
2363    FE 02           C               CP      02H
2365    CA 236B         C               JP      Z,OUT           ;IF ZERO DATA IS CORRECT
2368    C3 2355         C               JP      MORE            ;CHECK RXRDY
236B    3E D4           C OUT:          LD      A,0D4H          ;LOAD COMMAND INSTRUCTION
```

```
236D  D3 C1       C               OUT     (0C1H),A
236F  DB C0       C               IN      A,(0C0H)        ;RECEIVE STATION-DEVICE NO.
2371  FE FF       C               CP      0FFH
2373  CA 2355     C               JP      Z,MORE
2376  FE FE       C               CP      0FEH
2378  CA 2355     C               JP      Z,MORE
237B  5F          C               LD      E,A             ;STORE IN E
237C  3E 7D       C               LD      A,7DH
237E  D3 C1       C               OUT     (0C1H),A
                  C ;MODE 8251
2380  3E 67       C               LD      A,67H
2382  D3 81       C               OUT     (81H),A
2384  3E E7       C               LD      A,0E7H
2386  D3 81       C               OUT     (81H),A;RFS=0
2388  7B          C               LD      A,E
2389  07          C               RLCA
238A  07          C               RLCA
238B  07          C               RLCA
238C  07          C               RLCA
238D  E6 0F       C               AND     0FH             ;MAKE STATION NO.
238F  57          C               LD      D,A             ;STORE IN D
2390  7B          C               LD      A,E
2391  E6 0F       C               AND     0FH             ;MAKE DEVICE NO.
2393  C6 10       C               ADD     A,10H
2395  5F          C               LD      E,A             ;STORE IN E
2396  26 00       C               LD      H,00H
2398  79          C               LD      A,B
2399  C6 99       C               ADD     A,99H
239B  6F          C               LD      L,A
239C  72          C               LD      (HL),D          ;STORE FIRST BYTE 0040H
239D  26 00       C               LD      H,00H
239F  7B          C               LD      A,B             ;STORE SECOND BYTE
23A0  C6 B6       C               ADD     A,0B6H
23A2  6F          C               LD      L,A
23A3  73          C               LD      (HL),E          ;START STORE VALUE AT ADDRESS 004AH
23A4  1E 03       C               LD      E,03H
23A6  CD 302B     C               CALL    STRMSTATE
23A9  C3 003B     C               JP      M3
                  C
23AC  CD B95B     C OMST2:        CALL    CLRSET
23AF  CD 2AB9     C               CALL    POLLCLR
23B2  C3 023B     C               JP      MSCAN
                  C
23B5              C MSTATE3:      ;MTSIG ( TRANSMIT SIGNALLING )
                  C               ;ITS FUNCTION  = CHECK NO.STATION
                  C               ;IF EXTERNAL CHANGE STATE  TO 6
                  C               ;IF INTERNAL CHANGE STATE  TO 7
23B5  26 00       C               LD      H,00H
23B7  79          C               LD      A,B
23B9  C6 99       C               ADD     A,99H
23BA  6F          C               LD      L,A
23BB  5E          C               LD      E,(HL)
23BC  3A 00FF     C               LD      A,(STATION)     .       ;IF ZERO SELF STATION
23BF  BB          C               CP      E
23C0  CA 23CB     C               JP      Z,MINTERNAL
23C3  1E 06       C               LD      E,06H
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23C5    CD 302B     C                   CALL    STRMSTATE
23C8    C3 0841     C                   JP      M6
23CB    1E 07       C MINTERNAL:        LD      E,07H
23CD    CD 302B     C                   CALL    STRMSTATE
23D0    C3 0844     C                   JP      M7
            C
23D3            .   C MSTATE5:          ;BOOKED TIME SLOT THAT WANT TO COMMUNICATE
            C                           ;SEND   DSR
23D3    3E 65       C                   LD      A,65H           ;SET DSR ,CLK = 0
23D5    D3 81       C                   OUT     (81H),A
23D7    3E E5       C                   LD      A,0E5H          ;SET DSR ,CLK = 1
23D9    D3 81       C                   OUT     (81H),A
23DB    78          C                   LD      A,B
23DC    EE E0       C                   XOR     0E0H
23DE    57          C                   LD      D,A
23DF    0E 09       C                   LD      C,09H
23E1    CD 29F7     C                   CALL    SWTB0
23E4    CD 2A04     C                   CALL    CSWTB0
23E7    1E 0A       C                   LD      E,0AH
23E9    CD 302B     C                   CALL    STRMSTATE
23EC    CD 0968     C                   CALL    CLRSET
23EF    CD 2ABB     C                   CALL    POLLCLR
23F2    C3 023B     C                   JP      MSCAN
            C
23F5            .   C MSTATE6:          ;MTSIEX  (TANSSMIT SIGNALLINGINTEERNAL)
23F5    CD 2FE9     C                   CALL    CHECKDTR
23F8    3A 80F7     C                   LD      A,(DTR)
23FB    FE 99       C                   CP      99H
23FD    CC 0968     C                   CALL    Z,CLRSET
2400    CC 2ABB     C                   CALL    Z,POLLCLR
2403    CA 023B     C                   JP      Z,MSCAN
2406    CD 3033     C                   CALL    MARRANGE1       ;REQQUESTT TO SSEND SIGNALLING
2409    CD 2FB6     C                   CALL    MSTR1BYTE
240C    CD 2FC6     C                   CALL    MREADRAM
240F    59          C                   LD      E,C
2410    78          C                   LD      A,B
2411    EE E0       C                   XOR     0E0H
2413    57          C                   LD      D,A
2414    CD 29F7     C                   CALL    SWTB0
2417    CD 2A04     C                   CALL    CSWTB0
241A    53          C                   LD      D,E
241B    CD 2FBE     C                   CALL    MSTR2BYTE
241E    3E 40       C INITCSMA:         LD      A,40H           ;WAIT FOR 250 MICROSEC.(2FRAME)
2420    3D          C .F:               DEC     A
2421    FE 00       C                   CP      00H
2423    C2 2420     C                   JP      NZ,.F
2426    3A 80F6     C CHCSMA:           LD      A,(CSMA)
2429    FE 02       C                   CP      02H
242B    CA 2447     C                   JP      Z,.2MBYTE
242E    3E 01       C                   LD      A,01H
2430    32 80F6     C                   LD      (CSMA),A
2433    0E 10       C                   LD      C,10H
2435    16 A0       C                   LD      D,0A0H          ;X=1 ,T=1 ,SEND SIG.
2437    CD 29F7     C                   CALL    SWTB0
243A    3E 0D       C                   LD      A,0DH           ;SET RST6.5
243C    30          C                   DB      SIM
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243D  FB          C                EI
243E  CD 3052     C                CALL    MSSIG1B
2441  CD 3177     C                CALL    LPDELAY
2444  C3 2426     C                JP      CHCSMA          ;PROGRAM OUT OF THIS LOOP
                  C                ;WHEN RST 6.5 ACTIVE
2447  0E 10       C .2MBYTE:       LD      C,10H
2449  16 A0       C                LD      D,0A0H
244B  CD 29F7     C                CALL    SWTB0
244E  3E 0D       C                LD      A,0DH           ;SET RST6.5
2450  30          C                DB      SIM
2451  FB          C                EI
2452  CD 3050     C                CALL    MSSIG2B
2455  CD 3177     C                CALL    LPDELAY
2458  3A 00F6     C                LD      A,(CSMA)
245B  FE 04       C                CP      04H
245D  CA 2468     C                JP      Z,NCSMA
2460  3E FF       C                LD      A,0FFH
2462  32 00F6     C                LD      (CSMA),A                ;INITIAL CSMA
2465  C3 241E     C                JP      INITCSMA
2468  0E 10       C NCSMA:         LD      C,10H
246A  16 A0       C                LD      D,0A0H
246C  CD 29F7     C                CALL    SWTB0
246F  3E 0D       C                LD      A,0DH           ;SET RST6.5
2471  30          C                DB      SIM
2472  FB          C                EI
2473  CD 3052     C                CALL    MSSIG1B
2476  CD 3177     C                CALL    LPDELAY
2479  3A 00F6     C                LD      A,(CSMA)
247C  FE 05       C                CP      05H
247E  CA 2494     C                JP      Z,N1CSMA
2481  C3 2468     C                JP      NCSMA
2484  1E 0A       C N1CSMA:        LD      E,0AH
2486  CD 302B     C                CALL    STRMSTATE
2489  CD 0968     C                CALL    CLRSET
248C  CD 2A0B     C                CALL    POLLCLR
248F  C3 0238     C                JP      MSCAN
                  C
2492              C MSTATE7:       ;FUNCTION CHECK DESTINATION MICRO IDLE ?
                  C                ;IF IDLE CONNECT 3 TS.
2492  26 00       C                LD      H,00H
2494  78          C                LD      A,B
2495  C6 06       C                ADD     A,06H
2497  6F          C                LD      L,A
2498  5E          C                LD      E,(HL)          ;LOAD DES. NO. IN E
2499  50          C                LD      D,B             ;LOAD SOURCE NO. IN D
249A  43          C                LD      B,E             ;READ STATUS OF DES. MICRO.
249B  CD 3023     C                CALL    READMSTATE
249E  42          C                LD      B,D             ;LOAD SOURCE NO. IN B
249F  FE 02       C                CP      02H
24A1  C3 24AD     C                JP      FRONT0  ;IF ZERO DES. DV: IDLE,DIR = 1
24A4  CD 0968     C                CALL    CLRSET
24A7  CD 2A0B     C                CALL    POLLCLR         ;SOURCE STIL IN THIS MSTATE
24AA  C3 0238     C                JP      MSCAN
24AD  CD 2FC6     C FRONT0:        CALL    MREADRAM
24B0  0C          C                INC     C
24B1  78          C                LD      A,B
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24B2    EE 60       C               XOR     60H
24B4    57          C               LD      D,A
24B5    CD 29F7     C               CALL    SWTB0           ;WRITE SWTB. SOURCE IN
24B8    CD 2A04     C               CALL    CSWTB0          ;MIDDLE TS.
                    C ; NOW DES. DV. IS IN REGISTER E
24BB    CD 30C0     C               CALL    INCOMN
24BE    50          C               LD      D,B             ;LOAD SOURCE NO.IN D
24BF    43          C               LD      B,E
24C0    1E 10       C               LD      E,10H
                    C ;NOE DES. STATE IS IN REGISTER E
24C2    CD 302B     C               CALL    STRMSTATE
24C5    42          C               LD      B,D             ;LOAD SOURCE NO. IN B
24C6    1E 08       C               LD      E,08H
24C9    CD 302B     C               CALL    STRMSTATE
24CB    CD 0968     C               CALL    CLRSET
24CE    CD 2AB8     C               CALL    POLLCLR
24D1    C3 023B     C               JP      MSCAN
                    C
24D4                C MSTATE8:      ;CHECK DESTINATION MICRO IN ALREADY RECEEIVE STATUS ?
                    C               ;IF ALREADY SEND DSR = 1
24D4    26 08       C               LD      H,08H
24D6    78          C               LD      A,B
24D7    C6 B6       C               ADD     A,0B6H
24D9    6F          C               LD      L,A
24DA    5E          C               LD      E,(HL)          ;DES. NO. IN E
24DB    50          C               LD      D,B             ;LOAD SOURCE NO. IN D
24DC    43          C               LD      B,E             ;READ STAUS OF DES. MICRO
24DD    CD 3023     C               CALL    READMSTATE
24E0    42          C               LD      B,D
24E1    FE 11       C               CP      11H
24E3    CA 24EF     C               JP      Z,FRONT1        ;IF ZERO DES. ALREADY RECEIVE
24E6    CD 0968     C               CALL    CLRSET
24E9    CD 2AB8     C               CALL    POLLCLR
24EC    C3 023B     C               JP      MSCAN
24EF    3E 69       C FRONT1:       LD      A,69H           ;SEND DSR = 1
24F1    D3 81       C               OUT     (81H),A         ;CLK = 0
24F3    3E E9       C               LD      A,0E9H
24F5    D3 81       C               OUT     (81H),A         ;CLK = 1
24F7    1E 09       C               LD      E,09H
24F9    CD 302B     C               CALL    STRMSTATE
24FC    CD 0968     C               CALL    CLRSET
24FF    CD 2AB8     C               CALL    POLLCLR
2502    C3 023B     C               JP      MSCAN
                    C
2505                C MSTATE10:     ;FUNCTION RECEIVE INTERNAL STATE
2505    3E 6A       C               LD      A,6AH           ;SET RLSD = 1
2507    D3 81       C               OUT     (81H),A         ;CLK = 0
2509    3E EA       C               LD      A,0EAH
250B    D3 81       C               OUT     (81H),A         ;CLK = 1
250D    1E 11       C               LD      E,11H
250F    CD 302B     C               CALL    STRMSTATE
2512    CD 0968     C               CALL    CLRSET
2515    CD 2AB8     C               CALL    POLLCLR
2518    C3 023B     C               JP      MSCAN
                    C
251B                C RSTATE1:      ;DESTINATION TEL. IS ALREADDY
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                    C                 ;RINGING
251B   3A 80FE      C                 LD      A,(DIALER)
251E   E6 BF        C                 AND     0BFH           ;SET FLAG TO SHOW RECEIVER ALREADY
2520   32 80FE      C                 LD      (DIALER),A
2523   CD 2F31      C                 CALL    RING
2526   CD 2F31      C                 CALL    RING
2529   C9           C                 RET
                    C
252A                C RSTATE2:        ;STOP RINGING ,CONNECT TS.
252A   CD 2F50      C                 CALL    CRING
                    C                 ;TIME SLOT WILL CONNECT WHEN SET FLAG IN RSTATE3 ROUTINE
                    C                 ;CONSEQUENTLY WHEN PROGRAM POLLING TO SOURCE TEL.
                    C                 ;TIME SLOT CONNECT AUTOMATICALLY
252D   C9           C                 RET
                    C
252E                C RSTATE3:        ;INTERNAL RECEIVER SEND SIGNALLING
252E   3A 80FE      C                 LD      A,(DIALER)
2531   E6 7F        C                 AND     7FH
2533   32 80FE      C                 LD      (DIALER),A
2536   C9           C                 RET
                    C
2537                C EXRSTATE1:      ;CONNECT R0 TO SENDER
2537   CD 2F28      C                 CALL    READSTATE
253A   FE 00        C                 CP      00H
253C   CA 2542      C                 JP      Z,TCONNECT
253F   C3 2549      C                 JP      TNCONNECT
2542   CD 29D7      C TCONNECT:       CALL    CONNECT
2545   CD 2F31      C                 CALL    RING           ;RINGING TELEPHONE1
2548   C9           C                 RET
2549   CD 29E7      C TNCONNECT:      CALL    NCONNECT
254C   C9           C                 RET
                    C
254D                C EXRSTATE2:      ;STOP RINGING
                    C                 ;
                    C ;CONNECT TS. TO RECEIVER
254D   F3           C                 DI
254E   CD 2F50      C                 CALL    CRING          ;STOP RINGING
                    C
                    C
2551   3A 80F0      C                 LD      A,(BUFFER21)
2554   4F           C                 LD      C,A
2555   78           C                 LD      A,B
2556   EE E0        C                 XOR     0E0H           ;WRITE SWTB
2558   57           C                 LD      D,A
2559   CD 29F7      C                 CALL    SWTB0
255C   CD 2A04      C                 CALL    CSWTB0
255F   CD 2EEE      C                 CALL    COPYTS
2562   C9           C                 RET
2563                C EXRSTATE3:      ;FUNCTION SEND SIG. TO TELL SENDER THAT IT OFH ALREADY
2563   F3           C                 DI
2564   3E FF        C                 LD      A,0FFH         ;DELETE SIG. IN BUFFER
2566   32 80E0      C                 LD      (BUFFER11),A
2569   32 80EE      C                 LD      (BUFFER12),A
256C   32 80F0      C                 LD      (BUFFER21),A
256F   00           C                 NOP
2570   C9           C                 RET
```

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                        C
                        C
2571                    C EXRMS1:       ;CHECK THIS DEVICE IS BE USING OR NOT
2571    26 00           C               LD      H,00H
2573    2E 00           C               LD      L,00H
2575    2C              C .GG:          INC     L
2576    7D              C               LD      A,L
2577    FE 00           C               CP      00H
2579    CA 2575         C               JP      Z,.GG
257C    FE 10           C               CP      10H
257E    CA 2575         C               JP      Z,.GG
2581    FE 20           C               CP      20H
2583    CA 2590         C               JP      Z,BLANK         ;IF ZERO THIS DEVICE IS NOT IN
                        C                                       ;SWITCHING TABLE
2586    7E              C               LD      A,(HL)
2587    E6 1F           C               AND     1FH
2589    B8              C               CP      B
258A    C2 2575         C               JP      NZ,.GG
258D    C3 0951         C               JP      EXRM4
2590    C3 094E         C BLANK:        JP      EXRM2
                        C
2593                    C EXRMS2:       ;FUNCTION CHECK DTR
                        C               ;SEND DSR TO TELL RECEIVER FOR RECEIVING DATA
2593    3E 65           C               LD      A,65H           ;SEND DSR ,CLK =0
2595    D3 01           C               OUT     (01H),A
2597    3E E5           C               LD      A,0E5H          ;CLK=1
2599    D3 01           C               OUT     (01H),A
259B    3A 00FB         C               LD      A,(BUFFER21)
259E    4F              C               LD      C,A
259F    78              C               LD      A,B
25A0    EE E0           C               XOR     0E0H
25A2    57              C               LD      D,A             ;WRITE SWITCHING TABLE FOR
                        C                                       ;X=1,R=1,T=1
25A3    CD 29F7         C               CALL    SWTBB
25A6    CD 2A04         C               CALL    CSWTB0
25A9    3E FF           C               LD      A,0FFH
25AB    32 00ED         C               LD      (BUFFER11),A    ;CLEAR STATUS SIG. BUFFER
25AE    32 00FB         C               LD      (BUFFER21),A
25B1    32 00EE         C               LD      (BUFFER12),A
25B4    1E 0A           C               LD      E,0AH
25B6    CD 3029         C               CALL    STRMSTATE
25B9    CD 0968         C               CALL    CLRSET
25BC    CD 2A00         C               CALL    POLLCLR
25BF    C3 023B         C               JP      MSCAN
                        C
25C2                    C EXRMS4:       ;FUNCTION SEND SIGNALLING TO CANCEL CONNECTION
25C2    00              C               NOP
25C3    00              C               NOP
25C4    CD 0968         C               CALL    CLRSET
25C7    CD 2A00         C               CALL    POLLCLR
25CA    C3 023B         C               JP      MSCAN
                        C
25CD                    C COMDSTATE1:   ;FUNCTION
                        C ;CLEAR TS; IN COMMAND BUFFER
25CD    3A 00F8         C               LD      A,(COMMAND)
25D0    4F              C               LD      C,A
```

```
25D1  16 00      C              LD      D,00H
25D3  CD 29F7    C              CALL    SWT00
25D6  16 FF      C              LD      D,0FFH
25D8  CD 2A04    C              CALL    CSWT00
25DB  CD 2F50    C              CALL    CRING
25DE  78         C              LD      A,B
25DF  FE 01      C              CP      01H
25E1  CA 25FB    C              JP      Z,DVST
25E4  FE 03      C              CP      03H
25E6  CA 25FB    C              JP      Z,DVST
25E9  FE 06      C              CP      06H
25EB  CA 25FB    C              JP      Z,DVST
25EE  FE 07      C              CP      07H
25F0  CA 25FB    C              JP      Z,DVST
25F3  1E FF      C              LD      E,0FFH
25F5  CD 2F20    C              CALL    STRSTATE
25F8  C3 2600    C              JP      COUT
25FB  1E 00      C DVST:        LD      E,00H
25FD  CD 2F20    C              CALL    STRSTATE
2600  3E FF      C COUT:        LD      A,0FFH
2602  32 00ED    C              LD      (BUFFER11),A
2605  32 00EE    C              LD      (BUFFER12),A
2608  32 00F0    C              LD      (BUFFER21),A
2609  3E 09      C              LD      A,09H
260D  E6 DF      C              AND     0DFH
260F  4F         C              LD      C,A
2610  D3 01      C              OUT     (01H),A
2612  3E 00      C              LD      A,00H
2614  D3 42      C              OUT     (42H),A
2616  79         C              LD      A,C
2617  D3 01      C              OUT     (01H),A
2619  3E 0B      C              LD      A,0BH
261B  E6 DF      C              AND     0DFH
261D  4F         C              LD      C,A
261E  D3 01      C              OUT     (01H),A
2620  3E 00      C              LD      A,00H
2622  D3 42      C              OUT     (42H),A
2624  79         C              LD      A,C
2625  D3 01      C              OUT     (01H),A
2627  3E 0D      C              LD      A,0DH
2629  E6 DF      C              AND     0DFH
262B  4F         C              LD      C,A
262C  D3 01      C              OUT     (01H),A
262E  3E 00      C              LD      A,00H
2630  D3 42      C              OUT     (42H),A
2632  79         C              LD      A,C
2633  D3 01      C              OUT     (01H),A
2635  C9         C              RET
                 C
2636               C OUT0:      ;THESE ROUTINE SERVES PSTN INTERFACE
                   C            ;THS ROUTINE CHECK
                   C            ;1) RING ENABLE SIGNAL
                   C            ;2) CONNECT TS.
2636  CD 099E    C              CALL    DFN
2639  FE C2      C              CP      0C2H            ;IF A=C2H RE ACTIVE(BECAUSE THIS IS A C
263B  CA 26C2    C              JP      Z,CONTINUE
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263E   CD 2F20     C                   CALL    READSTATE
2641   FE FF       C                   CP      0FFH
2643   CA 2678     C                   JP      Z,DCARE
2646   FE F7       C                   CP      0F7H
2648   CA 2688     C                   JP      Z,DCARE0
264B   FE F8       C                   CP      0F8H
264D   CA 2754     C                   JP      Z,OUT7
2650   FE F3       C                   CP      0F3H
2652   CA 266A     C                   JP       Z,CLROUT       ;TELEPHONE IN PSTN DON'T
                   C ;WANT TO COMMUUNICATE (RING TONE IN PSTN DISAPPEAR)
2655   3C          C                   INC     A
2656   5F          C                   LD      E,A
2657   CD 2F20     C                   CALL    STRSTATE
265A   CD 2F0C     C                   CALL    OFFRELAY
265D   3E C4       C                   LD      A,0C4H
265F   D3 30       C                   OUT     (30H),A
2661   CD 0968     C                   CALL    CLRSET
2664   CD 2A09     C                   CALL    POLLCLR
2667   C3 01C9     C                   JP      SCAN
266A   50          C CLROUT:           LD      D,B
266B   06 01       C                   LD      B,01H
266D   1E 00       C                   LD      E,00H
266F   CD 2F20     C                   CALL    STRSTATE
2672   42          C                   LD      B,D
2673   1E FF       C                   LD      E,0FFH
2675   CD 2F20     C                   CALL    STRSTATE
2678   CD 2F0C     C DCARE:            CALL    OFFRELAY                ;CLEAR RELAY
267B   3E C3       C                   LD      A,0C3H
267D   D3 30       C                   OUT     (30H),A
267F   CD 0968     C                   CALL    CLRSET
2682   CD 2A09     C                   CALL    POLLCLR
2685   C3 01C9     C                   JP      SCAN
2688   CD 2B66     C DCARE0:           CALL    SCNRAM
268B   16 00       C                   LD      D,00H
268D   CD 29F7     C                   CALL    SWT00
2690   16 FF       C                   LD      D,0FFH
2692   CD 2A04     C                   CALL    CSWT00
2695   0C          C                   INC     C
2696   16 00       C                   LD      D,00H
2699   CD 29F7     C                   CALL    SWT00
269B   16 FF       C                   LD      D,0FFH
269D   CD 2A04     C                   CALL    CSWT00
26A0   0C          C                   INC     C
26A1   16 00       C                   LD      D,00H
26A3   CD 29F7     C                   CALL    SWT00
26A6   16 FF       C                   LD      D,0FFH
26A8   CD 2A04     C                   CALL    CSWT00
26AB   50          C                   LD      D,B
26AC   06 01       C                   LD      B,01H
26AE   1E 00       C                   LD      E,00H
26B0   CD 2F20     C                   CALL    STRSTATE
26B3   42          C                   LD      B,D
26B4   1E FF       C                   LD      E,0FFH
26B6   CD 2F20     C                   CALL    STRSTATE
26B9   CD 0968     C                   CALL    CLRSET
26BC   CD 2A09     C                   CALL    POLLCLR
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26BF  C3 01CB     C              JP     SCAN
                  C
26C2  CD 2F28     C CONTINUE:    CALL   READSTATE
26C5  FE FF       C              CP     0FFH
26C7  CA 26E7     C              JP     Z,CONTINUE0
26CA  FE F7       C              CP     0F7H
26CC  CA 273F     C              JP     Z,OUT6
26CF  FE F8       C              CP     0F8H
26D1  CA 2754     C              JP     Z,OUT7
26D4  FE 01       C              CP     01H
26D6  CA 2736     C              JP     Z,OUT5
26D9  1E 01       C              LD     E,01H
26DB  CD 2F20     C              CALL   STRSTATE
26DE  CD 0969     C              CALL   CLRSET
26E1  CD 2ABB     C              CALL   POLLCLR
26E4  C3 01CB     C              JP     SCAN
26E7              C CONTINUE0:
26E7  CD 0174     C              CALL   READRAM
26EA  0C          C              INC    C               ;BECAUSE THIS IS MIDDLE TS.
26EB  78          C              LD     A,B
26EC  3E 01       C              LD     A,01H
26EE  EE 60       C              XOR    60H
26F0  57          C              LD     D,A
26F1  CD 29F7     C              CALL   SWT00
26F4  CD 2A04     C              CALL   CSWT00
26F7  CD 2EEE     C              CALL   COPYTS
26FA  CD 30C3     C              CALL   RTSUSED
26FD  1E 0C       C              LD     E,0CH           ;DEVICE TO CONNECT IS TELEPHONE.1
26FF  CD 30CB     C              CALL   INCOMM
2702  C3 00F0     C              JP     OUTSIDE1
2705              C OUT1:        ;THIS ROUTINE CONNECT RELAY TO COMMUNICATE WITH PSTN
                  C              ;USED THIS ROUTINE IN PLACE OF EN (8)
                  C ;            CALL   OFFRELAY
                  C              ;TO UNENABLE RELAY STATUS
2705  CD 2F0C     C              CALL   OFFRELAY
2708  3E 00       C              LD     A,20H
270A  32 40E0     C              LD     (PSTN0),A
270D  32 40E1     C              LD     (PSTN1),A
2710  32 40E2     C              LD     (PSTN2),A
2713  06 01       C              LD     B,01H           ;LOAD STATUS IN TELEPHONE .1
                  C ;            CALL   READSTATE
                  C ;            CP     00H
                  C ;            JP     Z,COMMPSTN
                  C ;            LD     B,0CH
                  C ;            LD     E,0FFH
                  C ;            CALL   STRSTATE
                  C ;            LD     A,0FFH
                  C ;            LD     (PSTN0),A
                  C ;            LD     (PSTN1),A
                  C ;            LD     (PSTN2),A
                  C ;            CALL   CLRSET
                  C ;            CALL   POLLCLR
                  C ;            JP     SCAN
2715  1E 10       C COMMPSTN:    LD     E,10H
2717  CD 2F20     C              CALL   STRSTATE
271A  06 0C       C              LD     B,0CH
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271C  1E 01     C               LD      E,01H
271E  CD 2F20   C               CALL    STRSTATE
2721  CD 0968   C               CALL    CLRSET
2724  CD 2ABB   C               CALL    POLLCLR
2727  C3 01CB   C               JP      SCAN
                C
272A              C OUT4:       ;THIS ROUTINE IS FOR TELEPHONE#1 TO RING
272A  CD 2F31   C               CALL    RING
272D  CD 0969   C               CALL    CLRSET
2730  CD 2ABB   C               CALL    POLLCLR
2733  C3 01CB   C               JP      SCAN
                C
2736              C OUT5:       ;BYPASS  STATE
2736  CD 0968   C               CALL    CLRSET
2739  CD 2ABB   C               CALL    POLLCLR
273C  C3 01C9   C               JP      SCAN
                C
273F              C OUT6:       ;BYPASS PSTN
273F  CD 2F6F   C               CALL    ONRELAY
2742  1E F8     C               LD      E,0F8H
2744  CD 2F20   C               CALL    STRSTATE
2747  3E C5     C               LD      A,0C5H
2749  D3 38     C               OUT     (38H),A
274B  CD 0968   C               CALL    CLRSET
274E  CD 2ABB   C               CALL    POLLCLR
2751  C3 01CB   C               JP      SCAN
                C
2754              C OUT7:       ;BYPASS SSTATS  WHEN OPERATER OFH HOOK
2754  CD 2F6F   C               CALL    ONRELAY
2757  3E C5     C               LD      A,0C5H
2759  D3 38     C               OUT     (38H),A
275B  CD 0968   C               CALL    CLRSET
275E  CD 2ABB   C               CALL    POLLCLR
2761  C3 01CB   C               JP      SCAN
2764              C OUT8:       ;BYPASS WHEN TELL OUT OF LAN
2764  CD 2F6F   C               CALL    ONRELAY
2767  CD 0968   C               CALL    CLRSET
276A  CD 2ABB   C               CALL    POLLCLR
276D  C3 01CB   C               JP      SCAN
                C
2770              C OUT9:         ;FUNCTION  WORK  WHEN  TELEPHONE  THAT  WANT  TO
                C               ;CONNECT   PSTN ON HOOK
2770  CD 2F6C   C              CALL    OFFRELAY
2773  1E FF     C              LD      E,0FFH
2775  CD 2F20   C              CALL    STRSTATE
2778  CD 3177   C              CALL     LPDELAY        ;DELAY BECAUSE CPU  WANT
                C            ; TIME TO DETECT RE
277B  CD 0968   C              CALL    CLRSET
277E  CD 2ABB   C              CALL    POLLCLR
2781  C3 01CB   C              JP      SCAN
                C
2784              C OUT10:      ;FUNCTION
                C ;BYPASS STATE WHEN THERE IS A CALL FROM
                C ;PSTN BUT OPERATOR DON'T OFF HOOK
2784  CD 2F6C   C               CALL    OFFRELAY
2787  3A 4B50   C               LD      A,(PSTN0)
```

```
278A  FE FF     C               CP      0FFH
278C  CA 2795   C               JP      Z,CKPSTN1
278F  3C        C               INC     A
2790  32 40E0   C               LD      (PSTN0),A
2793  C3 27B1   C               JP      OUTFROM10
2796  3A 40E1   C CKPSTN1:      LD      A,(PSTN1)
2799  FE FF     C               CP      0FFH
279B  CA 27A5   C               JP      Z,CKPSTN2
279E  3C        C               INC     A
279F  32 40E1   C               LD      (PSTN1),A
27A2  C3 27B1   C               JP      OUTFROM10
27A5  3A 40E2   C CKPSTN2:      LD      A,(PSTN2)
27A8  FE FF     C               CP      0FFH
27AA  CA 27BA   C               JP      Z,OUT11
27AD  3C        C               INC     A
27AE  32 40E2   C               LD      (PSTN2),A
27B1  CD 0968   C OUTFROM10:    CALL    CLRSET
27B4  CD 2ABB   C               CALL    POLLCLR
27B7  C3 01CB   C               JP      SCAN
27BA  CD 2B65   C OUT11:        CALL    SCHRAM
27BD  16 00     C               LD      D,00H
27BF  CD 29F7   C               CALL    SWTB0
27C2  16 FF     C               LD      D,0FFH
27C4  CD 2A04   C               CALL    CSWTB0
27C7  0C        C               INC     C
27C8  16 00     C               LD      D,00H
27CA  CD 29F7   C               CALL    SWTB0
27CD  16 FF     C               LD      D,0FFH
27CF  CD 2A04   C               CALL    CSWTB0
27D2  0C        C               INC     C
27D3  16 00     C               LD      D,00H
27D5  CD 29F7   C               CALL    SWTB0
27D8  16 FF     C               LD      D,0FFH
27DA  CD 2A04   C               CALL    CSWTB0
27DD  58        C               LD      D,B
27DE  06 01     C               LD      B,01H
27E0  1E 00     C               LD      E,00H
27E2  CD 2F20   C               CALL    STRSTATE
27E5  42        C               LD      B,D
27E6  1E FF     C               LD      E,0FFH
27E8  CD 2F20   C               CALL    STRSTATE
27EB  3E C4     C               LD      A,0C4H
27ED  D3 38     C               OUT     (38H),A
27EF  CD 0968   C               CALL    CLRSET
27F2  CD 2AB8   C               CALL    POLLCLR
27F5  C3 01CB   C               JP      SCAN
                C
27F8            C UTILITY:
27F8            C CV16BASE:     ;
                C ;FUNCTION  CONVERT NUMBER 10BASE TO 16BAS;
                C ;INP D=A , OUT = D
27F8  E6 10     C               AND     10H
27FA  CA 2801   C               JP      Z,OVER10
                C ;IF ZERO NUMBER IS OVER 10 IN
                C ;BASE 10
27FD  57        C               LD      D,A
```

```
27FE  C3 2865    C              JP      OUTCV
2801  FE 10      C OVER10:      CP      10H
2803  CA 2836    C              JP      Z,LD10
2806  FE 11      C              CP      11H
2808  CA 2838    C              JP      Z,LD11
280B  FE 12      C              CP      12H
280D  CA 2840    C              JP      Z,LD12
2810  FE 13      C              CP      13H
2812  CA 2845    C              JP      Z,LD13
2815  FE 14      C              CP      14H
2817  CA 284A    C              JP      Z,LD14
281A  FE 15      C              CP      15H
281C  CA 284F    C              JP      Z,LD15
281F  FE 16      C              CP      16H
2821  CA 2854    C              JP      Z,LD16
2824  FE 17      C              CP      17H
2826  CA 2859    C              JP      Z,LD17
2829  FE 18      C              CP      18H
282B  CA 285E    C              JP      Z,LD18
282E  FE 19      C              CP      19H
2830  CA 2863    C              JP      Z,LD19
2833  C3 2865    C              JP      OUTCV
2836  16 0A      C LD10:        LD      D,0AH
2838  C3 2865    C              JP      OUTCV
283B  16 0B      C LD11:        LD      D,0BH
283D  C3 2865    C              JP      OUTCV
2840  16 0C      C LD12:        LD      D,0CH
2842  C3 2865    C              JP      OUTCV
2845  16 0D      C LD13:        LD      D,0DH
2847  C3 2865    C              JP      OUTCV
284A  16 0E      C LD14:        LD      D,0EH
284C  C3 2865    C              JP      OUTCV
284F  16 0F      C LD15:        LD      D,0FH
2851  C3 2865    C              JP      OUTCV
2854  16 10      C LD16:        LD      D,10H

2856  C3 2865    C              JP      OUTCV
2859  16 11      C LD17:        LD      D,11H
285B  C3 2865    C              JP      OUTCV
285E  16 12      C LD18:        LD      D,12H
2860  C3 2865    C              JP      OUTCV
2863  16 13      C LD19:        LD      D,13H
2865  C9         C OUTCV:       RET
                 C
2866               C SCNRAM:      ;FUNCTION  SCAN RAM TO FIND OUT WHAT  FIRST  TS/
                   C              ;   THAT DV/ USED
                   C              ;INP DV/ = B
                   C              ;OUTPUT TS/ = C
2866  26 00        C              LD      H,00H
2868  2E 00        C              LD      L,00H
286A  2C           C .A:          INC     L
286B  7D           C              LD      A,L
286C  FE 10        C              CP      10H
286E  CA 286A      C              JP      Z,.A
2871  FE 1F        C              CP      1FH
2873  CA 2881      C              JP      Z,DD
2876  7E           C              LD      A,(HL)
```

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2877    E6 0F           C               AND     0FH
2879    B9              C               CP      B
287A    CA 2888         C               JP      Z,DONE
287D    C3 286A         C               JP      .A
2880    4D              C DONE:         LD      C,L
2881    C9              C DO:           RET
                        C
2882                    C SCHRAMSP:     ;
                        C ;IF FIND 2DV, E= FFH
                        C ;IF FIND 6DV, E= FEH
2882    26 98           C               LD      H,98H
2884    2E 80           C               LD      L,80H
2886    2C              C .A1:          INC     L
2887    7D              C               LD      A,L
2888    FE 10           C               CP      10H
288A    CA 2886         C               JP      Z,.A1
288D    FE 1F           C               CP      1FH
288F    CA 28AF         C               JP      Z,DO1
2892    7E              C               LD      A,(HL)
2893    E6 1F           C               AND     1FH
2895    5F              C               LD      E,A
2896    50              C               LD      D,B
2897    7A              C               LD      A,D
2898    C6 20           C               ADD     A,20H
289A    BB              C               CP      E
289B    CA 28A8         C               JP      Z,CASE1
289E    7A              C               LD      A,D
289F    C6 60           C               ADD     A,60H
28A1    BB              C               CP      E
28A2    CA 28AC         C               JP      Z,CASE2
28A5    C3 2886         C               JP      .A1
28A8    1E FF           C CASE1:        LD      E,0FFH
28AA    4D              C               LD      C,L
28AB    C9              C               RET
28AC    1E FE           C CASE2:        LD      E,0FEH
28AE    4D              C               LD      C,L
28AF    C9              C DO1:          RET
                        C
28B0                    C FREPDES:      ;
                        C ;FIND ARE THERE MORE THAN 2 NO. IN BUFFER;
                        C ;THAT STORE NO.
                        C ;OUT E= 0FFH IF MORE THAN 2 NO.
28B0    1E 00           C               LD      E,00H
28B2    26 98           C               LD      H,98H
28B4    78              C               LD      A,B
28B5    C6 86           C               ADD     A,86H
28B7    6F              C               LD      L,A
28B8    56              C               LD      D,(HL)
28B9    26 98           C               LD      H,98H
28BB    2E 85           C               LD      L,85H
28BD    2C              C SC1:          INC     L
28BE    7D              C               LD      A,L
28BF    FE D4           C               CP      0D4H
28C1    CA 28D9         C               JP      Z,FINIS
28C4    7E              C               LD      A,(HL)
28C5    BA              C               CP      D
```

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28C6  CA 28CC     C                 JP      Z,CHREP
                  C ; IF ZERO MEET NO.
28C9  C3 28BD     C                 JP      SC1
28CC  7B          C CHREP:          LD      A,E
28CD  FE 01       C                 CP      01H
28CF  CA 28D7     C                 JP      Z,M2ND
28D2  1E 01       C                 LD      E,01H
28D4  C3 28BD     C                 JP      SC1
28D7  1E FF       C M2ND:           LD      E,0FFH
28D9  C9          C FINIS:          RET
                  C
28DA              C FGOFDEC:        ;FIND GROUP OF DEC
                  C ;INP DV. = B,OUT G1=1,G2=2,G3=3
28DA  78          C                 LD      A,B
28DB  FE 01       C                 CP      01H
28DD  CA 28BD     C                 JP      Z,DG2
28E0  FE 06       C                 CP      06H
28E2  CA 28DB     C                 JP      Z,DG1
28E5  FE 07       C                 CP      07H
28E7  CA 28DB     C                 JP      Z,DG1
28EA  FE 02       C                 CP      02H
28EC  CA 28BD     C                 JP      Z,DG2
28EF  FE 03       C                 CP      03H
28F1  CA 28BD     C                 JP      Z,DG2
28F4  FE 04       C                 CP      04H
28F6  CA 28BD     C                 JP      Z,DG2
28F9  FE 05       C                 CP      05H
28FB  CA 28DB     C                 JP      Z,DG1
28FE  FE 08       C                 CP      08H
2900  CA 28DB     C                 JP      Z,DG1
2903  FE 09       C                 CP      09H
2905  CA 28DB     C                 JP      Z,DG1
2908  1E 01       C DG1:            LD      E,01H
290A  C3 2914     C                 JP      OUTD
290D  1E 02       C DG2:            LD      E,02H
290F  C3 2914     C                 JP      OUTD
2912  1E 03       C DG3:            LD      E,03H
2914  C9          C OUTD:           RET
                  C
2915              C FTRANS:         ;WHAT  DES NO. TRANSFER TO THIS NO.
                  C                 ;INP DV. TRANSFER NO. = E
                  C                 ;OUT DV. DES. NO. = A
2915  26 98       C                 LD      H,98H
2917  2E 7A       C                 LD      L,7AH
2919  2C          C CIR:            INC     L
291A  7D          C                 LD      A,L
291B  FE 99       C                 CP      99H
291D  CA 2928     C                 JP      Z,FIND
2920  7E          C                 LD      A,(HL)
2921  BB          C                 CP      E
2922  CA 2928     C                 JP      Z,FIND
2925  C3 2919     C                 JP      CIR
2928  7D          C FIND:           LD      A,L
2929  D6 7A       C                 SUB     7AH
292B  C9          C                 RET
                  C
```

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292C                    C FSOURCE:      ;FIND  SOURCE NO.
                        C               ;BY FIND MIDDLE TS:
                        C               ;INP  DES. NO. = B
                        C               ;OUT  SOURCE NO. = A
292C    CD 2966         C               CALL    SCNRAM
292F    0C              C               INC     C
2930    26 80           C               LD      H,80H
2932    69              C               LD      L,C
2933    7E              C               LD      A,(HL)
2934    E6 0F           C               AND     0FH
2936    C9              C               RET
                        C
2937                    C STRSOURCE:    ;STORE SOURCE NO. OF EACH DES. DV:
                        C               ;INP A = SOURCE NO.
                        C               ;INP B = DES.  NO.
2937    26 40           C               LD      H,40H
2939    68              C               LD      L,B
293A    77              C               LD      (HL),A
293B    C9              C               RET
                        C
293C                    C READSOURCE:   ;READ SOURCE NO.
                        C               ;INP DES. NO. = B
                        C                       ;OUT SOURCE NO. = A
293C    26 40           C               LD      H,40H
293E    68              C               LD      L,B
293F    7E              C               LD      A,(HL)
2940    C9              C               RET
                        C
2941                    C RTIMER:       ;READ TIMER
                        C ;INP   = B,OUT =D
2941    26 40           C               LD      H,40H
2943    78              C               LD      A,B
2944    C6 20           C               ADD     A,20H
2946    6F              C               LD      L,A
2947    56              C               LD      D,(HL)
2948    C9              C               RET
                        C
2949                    C RTIMER2:
2949    26 40           C               LD      H,40H
294B    78              C               LD      A,B
294C    C6 3E           C               ADD     A,3EH
294E    6F              C               LD      L,A
294F    56              C               LD      D,(HL)
2950    C9              C               RET
                        C
2951                    C STRTIMER:     ;INP DV: =B
                        C ;INP DATA TIME = D
                        C ;1 LOOP = 80 MS.
2951    26 40           C               LD      H,40H
2953    78              C               LD      A,B
2954    C6 20           C               ADD     A,20H
2956    6F              C               LD      L,A
2957    72              C               LD      (HL),D
2958    C9              C               RET
                        C
2959                    C STRTIMER2:
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```
2959  26 40     C                LD      H,40H
295B  78        C                LD      A,B
295C  C6 3E     C                ADD     A,3EH
295E  6F        C                LD      L,A
295F  72        C                LD      (HL),D
2960  C9        C                RET
          C
2961            C RTRANSF:       ;READ NO. OF TRANSFER
          C ;INP DV = B, OUT TRANSF = A
2961  26 80     C                LD      H,80H
2963  78        C                LD      A,B
2964  C6 7A     C                ADD     A,7AH
2966  6F        C                LD      L,A
2967  7E        C                LD      A,(HL)
2968  C9        C                RET
          C
2969            C STRTRANSF:     ;
          C ;STORE TRANSFER NO.
          C ;INP DV. = B, INP TRANSF NO. = E
2969  26 80     C                LD      H,80H
296B  78        C                LD      A,B
296C  C6 7A     C                ADD     A,7AH
296E  6F        C                LD      L,A
296F  73        C                LD      (HL),E
2970  C9        C                RET
          C
2971            C CLRSTS:        ;
          C ;INP TS. =C IN MIDDLE TS.
2971  0D        C                DEC     C
2972  16 00     C                LD      D,00H
2974  CD 29F7   C                CALL    SWTBB
2977  16 FF     C                LD      D,0FFH
2979  CD 2A04   C                CALL    CSWTBB
297C  1E 00     C                LD      E,00H
297E  1C        C INCR:          INC     E
297F  78        C                LD      A,E
2980  FE 06     C                CP      06H
2982  CA 2993   C                JP      Z,OUT
2985  0C        C                INC     C
2986  16 00     C                LD      D,00H
2988  CD 29F7   C                CALL    SWTBB
298B  16 FF     C                LD      D,0FFH
298D  CD 2A04   C                CALL    CSWTBB
2990  C3 297E   C                JP      INCR
2993  C9        C OUT:           RET
          C
2994            C HOLDSOURCE:    ;
          C ;INP TS. = C
          C ;DV. TO HOLD=A
2994  C6 40     C                ADD     A,40H
2996  57        C                LD      D,A
2997  CD 29F7   C                CALL    SWTBB
299A  CD 2A04   C                CALL    CSWTBB
299D  0D        C                DEC     C
299E  16 2E     C                LD      D,2EH
29A0  CD 29F7   C                CALL    SWTBB
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29A3    CD 2A04     C               CALL    CSWTB0
29A6    C9          C               RET
                    C
29A7                C HSBST:        ;FUNCTION
                    C ;HOLD SOURCE BETWEEN STATION
                    C ;INP TS: FROM SUBROUTINE COPYTS
29A7    CD 2FB6     C               CALL    RDEXTS
29AA    16 EE       C               LD      D,0EEH
29AC    CD 29F7     C               CALL    SWTB0
29AF    CD 2A04     C               CALL    CSWTB0
29B2    C9          C               RET
                    C
29B3                C ASKTSIDLE:    ;FUNCTION EXAMIINE  THIS TS:
                    C               ;IS USSED BEFORE  OR NOT
                    C               ;OUTPUT IF IDLE E =00 ,NOT IDLE E=01
29B3    3A 80F0     C               LD      A,(BUFFER21)
29B6    5F          C               LD      E,A
29B7    26 00       C               LD      H,00H
29B9    7B          C               LD      A,E
29BA    6F          C               LD      L,A
29BB    7E          C               LD      A,(HL)
29BC    FE FF       C               CP      0FFH
29BE    CA 29C4     C               JP      Z,TSIDLE
29C1    1E 01       C               LD      E,01H
29C3    C9          C               RET
29C4    1E 00       C TSIDLE:       LD      E,00H
29C6    C9          C               RET
                    C
29C7                C NOTIDLE0:     ;FUNCTION CONNECT BUSY TONE TO SENDER
29C7    3A 80F0     C               LD      A,(BUFFER21)
29CA    4F          C               LD      C,A
29CB    16 ED       C               LD      D,0EDH
29CD    CD 29F7     C               CALL    SWTB0
29D0    CD 2A04     C               CALL    CSWTB0
29D3    CD 2EEE     C               CALL    COPYTS
29D6    C9          C               RET
                    C
29D7                C CONNECT:      ;FUNCTION CONNECT RING BACK TO SENDER
29D7    3A 80F0     C               LD      A,(BUFFER21)
29DA    4F          C               LD      C,A
29DB    16 EE       C               LD      D,0EEH
29DD    CD 29F7     C               CALL    SWTB0
29E0    CD 2A04     C               CALL    CSWTB0
29E3    CD 2EEE     C               CALL    COPYTS
29E6    C9          C               RET
                    C
29E7                C NCONNECT:     ;FUNCTION CONNECT BUSY T
29E7    3A 80F0     C               LD      A,(BUFFER21)
29EA    4F          C               LD      C,A
29EB    16 ED       C               LD      D,0EDH
29ED    CD 29F7     C               CALL    SWTB0
29F0    CD 2A04     C               CALL    CSWTB0
29F3    CD 2EEE     C               CALL    COPYTS
29F6    C9          C               RET
                    C
                    C
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                        C               ;FUNCTION WRITE SWIICTHING TABLE
                        C               ;INP TS: = C ,DATA = D
29F7                    C SWTB0:
29F7    79              C               LD      A,C
29F8    E6 DF           C               AND     0DFH                    ;MAKE P15=0
29FA    4F              C               LD      C,A
29FB    D3 81           C               OUT     (81H),A
29FD    7A              C               LD      A,D
29FE    D3 42           C               OUT     (42H),A
2A00    79              C               LD      A,C
2A01    D3 81           C               OUT     (81H),A
2A03    C9              C               RET
                        C
                        C               ;FUNCTION COPY DATA IN RAM 8155(2)
2A04                    C CSWTB0:       ;INP TS: = C ,DATA = D
2A04    79              C               LD      A,C
2A05    E6 1F           C               AND     1FH
2A07    6F              C               LD      L,A
2A08    26 00           C               LD      H,00H
2A0A    72              C               LD      (HL),D
2A0B    C9              C               RET
                        C
2A0C                    C FDSWTB0:      ;FIND DATA IN SWTB
                        C ;INP DATA = D, OUT IF HAVE DATA E= FFH
                        C ;INP DATA = D ,OUT IF NO DATA E= FEH
2A0C    26 00           C               LD      H,00H
2A0E    2E 00           C               LD      L,00H
2A10    2C              C FINDI:        INC     L
2A11    7D              C               LD      A,L
2A12    FE 20           C               CP      20H
2A14    CA 2A22         C               JP      Z,OFINDI
2A17    7E              C               LD      A,(HL)
2A18    BA              C               CP      D
2A19    CA 2A1F         C               JP      Z,TQUEUE
2A1C    C3 2A10         C               JP      FINDI
2A1F    1E FF           C TQUEUE:       LD      E,0FFH
2A21    C9              C               RET
2A22    1E FE           C OFINDI:       LD      E,0FEH
2A24    C9              C               RET
                        C
2A25                    C FDSWC:  ;     FIND THERE ARE DV: C IN SWTB OR NOT
                        C         ;     IF THERE ARE E = FFH
                        C         ;     IF THERE ARE NOT E =FEH
2A25    26 00           C               LD      H,00H
2A27    2E 00           C               LD      L,00H
2A29    2C              C FINDI1:       INC     L
2A2A    7D              C               LD      A,L
2A2B    FE 20           C               CP      20H
2A2D    CA 2A3E         C               JP      Z,OFINDI1
2A30    7E              C               LD      A,(HL)
2A31    E6 0F           C               AND     0FH
2A33    FE 0C           C               CP      0CH
2A35    CA 2A38         C               JP      Z,TQ1
2A38    C3 2A29         C               JP      FINDI1
2A3B    1E FF           C TQ1:          LD      E,0FFH
2A3D    C9              C               RET
2A3E    1E FE           C OFINDI1:      LD      E,0FEH
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2A48   C9          C                   RET
                   C
2A41               C F6TSID:           ;
2A41   16 00       C                   LD      D,00H
                   C ;INITAL REGIS D
2A43   26 00       C                   LD      H,00H
2A45   2E 00       C                   LD      L,00H
2A47   2C          C INCF:             INC     L
2A48   7D          C                   LD      A,L
2A49   FE 10       C                   CP      10H
2A4B   CA 2A47     C                   JP      Z,INCF
2A4E   FE 20       C                   CP      20H
2A50   CA 2A74     C                   JP      Z,OUTF6TS
2A53   7A          C                   LD      A,D
2A54   FE 06       C                   CP      06H
2A56   CA 2A77     C                   JP      Z,OUTF6TS1
2A59   7E          C                   LD      A,(HL)
2A5A   FE FF       C                   CP      0FFH
2A5C   CA 2A62     C                   JP      Z,TS1EMPTY
2A5F   C3 2A47     C                   JP      INCF
2A62   7A          C TS1EMPTY:         LD      A,D
2A63   FE 00       C                   CP      00H
2A65   CA 2A6B     C                   JP      Z,INSRB
2A68   C3 2A70     C                   JP      INCTS1
2A6B   16 01       C INSRB:            LD      D,01H
2A6D   C3 2A47     C                   JP      INCF
2A70   14          C INCTS1:           INC     D
2A71   C3 2A47     C                   JP      INCF
2A74   1E FF       C OUTF6TS:          LD      E,0FFH
2A76   C9          C                   RET
2A77   7D          C OUTF6TS1:         LD      A,L
2A78   E6 1F       C                   AND     1FH
2A7A   DA 06       C                   SUB     06H
2A7C   4F          C                   LD      C,A
2A7D   1E FE       C                   LD      E,0FEH
2A7F   C9          C                   RET
                   C
2A80               C SSIG:             ;INP DATA = D
                   C                   ;NOW IN SWTB TS=16 ,X=1,Y=1
2A80   3E F8       C                   LD      A,0F8H
2A82   D3 81       C                   OUT     (81H),A
2A84   7A          C                   LD      A,D
2A85   D3 42       C                   OUT     (42H),A
2A87   00          C                   NOP
2A88   00          C                   NOP
2A89   00          C                   NOP
2A8A   00          C                   NOP
2A8B   00          C                   NOP
2A8C   00          C                   NOP
2A8D   C9          C                   RET
                   C
2A8E               C SSIG1P:           ;INP DV=0
2A8E   26 00       C                   LD      H,00H
2A90   78          C                   LD      A,B
2A91   C6 3E       C                   ADD     A,3EH
2A93   6F          C                   LD      L,A
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MACRO-80 3.43   18-Sep-81       PAGE    1-103


2A94    56          C                   LD      D,(HL)
2A95    CD 2A98     C                   CALL    SSIG
2A98    C9          C                   RET
2A99                C SSIG2B:           ;INP DV: =B
2A99    26 00       C                   LD      H,00H
2A9B    78          C                   LD      A,B
2A9C    C6 5C       C                   ADD     A,5CH
2A9E    6F          C                   LD      L,A
2A9F    56          C                   LD      D,(HL)
2AA0    CD 2A98     C                   CALL    SSIG
2AA3    C9          C                   RET
                    C
2AA4                C POLLSETDV:        ;FUNCTION TO COMMUNICATE WITH THIS DEVICE
                    C                   ;WRITE SWTB IN TS:16
2AA4    3E D0       C                   LD      A,0D0H
2AA6    D3 81       C                   OUT     (81H),A
2AA8    78          C                   LD      A,B
2AA9    EE C0       C                   XOR     0C0H
2AAB    57          C                   LD      D,A
2AAC    D3 42       C                   OUT     (42H),A
2AAE    3E D0       C                   LD      A,0D0H
2AB0    D3 81       C                   OUT     (81H),A
2AB2    3E 10       C                   LD      A,10H
2AB4    3D          C .X:               DEC     A
2AB5    FE 00       C                   CP      00H
2AB7    C2 2AB4     C                   JP      NZ,.X
2ABA    C9          C                   RET
                    C
                    C
                    C
                    C
2ABB                C POLLCLR:          ;FUNCTION DON'T WANT TO COMM. WITH THIS DEVICE
                    C                   ;WRITE SWTB IN TS:0
2ABB    3E 00       C                   LD      A,00H
2ABD    30          C                   D0      SIM
2ABE    FB          C                   EI
2ABF    3E C0       C                   LD      A,0C0H
2AC1    D3 81       C                   OUT     (81H),A
2AC3    78          C                   LD      A,B
2AC4    EE 40       C                   XOR     40H
2AC6    D3 42       C                   OUT     (42H),A
2AC8    3E C0       C                   LD      A,0C0H
2ACA    D3 81       C                   OUT     (81H),A
2ACC    3E 0F       C                   LD      A,0FH           ;DELAY
2ACE    3D          C .2:               DEC     A
2ACF    FE 00       C                   CP      00H
2AD1    C2 2ACE     C                   JP      NZ,.2
2AD4    C9          C                   RET
                    C
2AD5    3E C0       C POLLCLRF:         LD      A,0C0H
2AD7    D3 81       C                   OUT     (81H),A
2AD9    3E 4F       C                   LD      A,4FH                   ;POLLCLR
2ADB    D3 42       C                   OUT     (42H),A
2ADD    3E C0       C                   LD      A,0C0H
2ADF    D3 81       C                   OUT     (81H),A
2AE1    3E 10       C                   LD      A,10H           ;DELAY
2AE3    3D          C .3:               DEC     A
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MACRO-80 3.43   19-Sep-81       PAGE    1-184


2AE4   FE 00       C               CP      00H
2AE6   C2 2AE3     C               JP      NZ,.3
2AE9   C9          C               RET
2AEA   3E C0       C POLLCLRB:     LD      A,0C0H
2AEC   D3 81       C               OUT     (81H),A
2AEE   3E 4B       C               LD      A,4BH
2AF0   D3 42       C               OUT     (42H),A
2AF2   3E C8       C               LD      A,0C8H
2AF4   D3 81       C               OUT     (81H),A
2AF6   3E 0F       C               LD      A,0FH
2AF8   3D          C .31:          DEC     A
2AF9   FE 00       C               CP      00H
2AFB   C2 2AF8     C               JP      NZ,.31
2AFE   C9          C               RET
2AFF   3E C0       C POLLCLRA:     LD      A,0C0H
2B01   D3 81       C               OUT     (81H),A
2B03   3E 4A       C               LD      A,4AH
2B05   D3 42       C               OUT     (42H),A
2B07   3E C8       C               LD      A,0C8H
2B09   D3 81       C               OUT     (81H),A
2B0B   3E 0F       C               LD      A,0FH
2B0D   3D          C .32:          DEC     A
2B0E   FE 00       C               CP      00H
2B10   C2 2B0D     C               JP      NZ,.32
2B13   C9          C               RET
                   C
2B14               C POLRALLDV:    ;FUNCTION POLL CLEAR ALL DV:
                   C               ;INP = B
2B14   06 1F       C               LD      B,1FH
2B16   05          C .4:           DEC     B
2B17   CD 0968     C               CALL    CLRSET
2B1A   CD 2ABB     C               CALL    POLLCLR
2B1D   78          C               LD      A,B
2B1E   FE 00       C               CP      00H
2B20   C2 2B16     C               JP      NZ,.4
2B23   C9          C               RET
                   C
2B24   3E 0D       C SETCLR:       LD      A,0DH           ;SET RST6.5
2B26   30          C               DB      SIM
2B27   FB          C               EI
2B28   3E C8       C               LD      A,0C8H
2B2A   D3 81       C               OUT     (81H),A
2B2C   78          C               LD      A,B
2B2D   EE 00       C               XOR     00H
2B2F   D3 42       C               OUT     (42H),A
2B31   3E C0       C               LD      A,0C0H
2B33   D3 81       C               OUT     (81H),A
2B35   3E 09       C               LD      A,09H
2B37   3D          C .2:           DEC     A
2B38   FE 00       C               CP      00H
2B3A   C2 2B37     C               JP      NZ,.2
2B3D   C9          C               RET
                   C
2B3E   3E C0       C SETCLRF:      LD      A,0C0H
2B40   D3 81       C               OUT     (81H),A
2B42   3E 0F       C               LD      A,0FH
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2B44  EE 00     C              XOR     00H
2B46  D3 42     C              OUT     (42H),A
2B48  3E C0     C              LD      A,0C0H
2B4A  D3 81     C              OUT     (81H),A
2B4C  3E 09     C              LD      A,09H
2B4E  3D        C .Y:          DEC     A
2B4F  FE 00     C              CP      00H
2B51  C2 2B4E   C              JP      NZ,.Y
2B54  C9        C              RET
                C
2B55  3E C0     C SETCLRB:     LD      A,0C0H
2B57  D3 81     C              OUT     (81H),A
2B59  3E 08     C              LD      A,08H
2B5B  EE 00     C              XOR     00H
2B5D  D3 42     C              OUT     (42H),A
2B5F  3E C0     C              LD      A,0C0H
2B61  D3 81     C              OUT     (81H),A
2B63  3E 10     C              LD      A,10H
2B65  3D        C .Y2:         DEC     A
2B66  FE 00     C              CP      00H
2B68  C2 2B65   C              JP      NZ,.Y2
2B6B  C9        C              RET
2B6C  3E C0     C SETCLRA:     LD      A,0C0H
2B6E  D3 81     C              OUT     (81H),A
2B70  3E 0A     C              LD      A,0AH
2B72  EE 00     C              XOR     00H
2B74  D3 42     C              OUT     (42H),A
2B76  3E C0     C              LD      A,0C0H
2B78  D3 81     C              OUT     (81H),A
2B7A  3E C0     C              LD      A,0C0H
2B7C  D3 81     C              OUT     (81H),A
2B7E  3E 10     C              LD      A,10H
2B80  3D        C .Y3:         DEC     A
2B81  FE 00     C              CP      00H
2B83  C2 2B80   C              JP      NZ,.Y3
2B86  C9        C              RET
2B87  3E D0     C POLLSETB:    LD      A,0D0H
2B89  D3 81     C              OUT     (81H),A
2B8B  3E 09     C              LD      A,09H
2B8D  EE C0     C              XOR     0C0H
2B8F  D3 42     C              OUT     (42H),A
2B91  3E D0     C              LD      A,0D0H
2B93  D3 81     C              OUT     (81H),A
2B95  C9        C              RET
2B96  3E D0     C POLLSETA:    LD      A,0D0H
2B98  D3 81     C              OUT     (81H),A
2B9A  3E 0A     C              LD      A,0AH
2B9C  EE C0     C              XOR     0C0H
2B9E  D3 42     C              OUT     (42H),A
2BA0  3E D0     C              LD      A,0D0H
2BA2  D3 81     C              OUT     (81H),A
2BA4  C9        C              RET
2BA5  3E 0D     C CLRSETB:     LD      A,0DH
2BA7  30        C              DB      SIM
2BA8  FB        C              EI
2BA9  3E D0     C              LD      A,0D0H
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2BAB   D3 81        C                 OUT    (81H),A
2BAD   3E 0B        C                 LD     A,0BH
2BAF   EE 80        C                 XOR    80H
2BB1   D3 42        C                 OUT    (42H),A
2BB3   3E D0        C                 LD     A,0D0H
2BB5   D3 81        C                 OUT    (81H),A
2BB7   3E 10        C                 LD     A,10H
2BB9   3D           C .V1:            DEC    A
2BBA   FE 00        C                 CP     00H
2BBC   C2 2BB9      C                 JP     NZ,.V1
2BBF   C9           C                 RET
2BC0   3E D0        C CLRSETA:        LD     A,0D0H
2BC2   D3 81        C                 OUT    (81H),A
2BC4   3E 0A        C                 LD     A,0AH
2BC6   EE 80        C                 XOR    80H
2BC8   D3 42        C                 OUT    (42H),A
2BCA   3E D0        C                 LD     A,0D0H
2BCC   D3 81        C                 OUT    (81H),A
2BCE   3E 10        C                 LD     A,10H
2BD0   3D           C .V2:            DEC    A
2BD1   FE 00        C                 CP     00H
2BD3   C2 2BD0      C                 JP     NZ,.V2
2BD6   C9           C                 RET
                    C
2BD7   F3           C RST5.5:         DI
2BD8   F5           C                 PUSH   AF
2BD9   C5           C                 PUSH   BC
2BDA   D5           C                 PUSH   DE
2BDB   CD 2E92      C                 CALL   CLRDIAL
2BDE   CD 2EAC      C                 CALL   SBUSY
2BE1   D1           C                 POP    DE
2BE2   C1           C                 POP    BC
2BE3   F1           C                 POP    AF
2BE4   78           C                 LD     A,B
2BE5   32 80FC      C                 LD     (PASSER),A
2BE8   3E 55        C                 LD     A,55H
2BEA   33           C                 INC    SP
2BEB   33           C                 INC    SP
2BEC   C9           C                 RET
                    C
                    C                 ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
2BED                C RST6.5:
2BED   F3           C                 DI
2BEE   F5           C                 PUSH   AF
2BEF   C5           C                 PUSH   BC
2BF0   D5           C                 PUSH   DE
2BF1   E5           C                 PUSH   HL
2BF2   DB 41        C                 IN     A,(41H)
2BF4   D3 30        C                 OUT    (30H),A
2BF6   32 80EC      C                 LD     (STRCSMA),A
2BF9   FE 7F        C                 CP     7FH
2BFB   CA 2E63      C                 JP     Z,BYPASSSIG
2BFE   FE 80        C                 CP     80H
2C00   CA 2E63      C                 JP     Z,BYPASSSIG
2C03   3A 80F6      C                 LD     A,(CSMA)
2C06   FE 05        C                 CP     05H
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2C00  CA 2E63    C             JP    Z,BYPASSSIG
2C03  FE 00      C             CP    00H
2C05  CA 2E63    C             JP    Z,BYPASSSIG
2C08  3A 00EC    C             LD    A,(STRCSHA)
2C0B  F6 1F      C             OR    1FH
2C0D  FE 1F      C             CP    1FH
2C0F  CA 2D5C    C             JP    Z,TWO           ;IF ZERO IT ISN'T 1BYTE
2C12  26 00      C             LD    H,00H           ;CHECK VALUE SIG. IS THE
2C14  2E 3D      C             LD    L,3DH           ;SAME AS IN 1BYTE SIG. OR NOT
2C16  2C         C SPIN:       INC   L
2C17  7D         C             LD    A,L
2C18  FE 4D      C             CP    4DH
2C1A  CA 2C32    C             JP    Z,MSIG1
2C1D  6F         C             LD    L,A
2C1E  7E         C             LD    A,(HL)
2C1F  5F         C             LD    E,A
2C20  3A 00EC    C             LD    A,(STRCSHA)
2C23  BB         C             CP    E
2C24  C2 2C16    C             JP    NZ,SPIN
2C27  C3 2C47    C             JP    L02
2C2A  26 00      C MSIG1:      LD    H,00H
2C2C  2E 4C      C             LD    L,04CH
2C2E  2C         C SPIN0:      INC   L
2C2F  7D         C             LD    A,L
2C30  FE 5C      C             CP    05CH
2C32  CA 2C46    C             JP    Z,CHECKSELF
2C35  6F         C             LD    L,A
2C36  7E         C             LD    A,(HL)
2C37  5F         C             LD    E,A
2C38  3A 00EC    C             LD    A,(STRCSHA)
2C3B  BB         C             CP    E
2C3C  C2 2C2E    C             JP    NZ,SPIN0
2C3F  3A 00F6    C L02:        LD    A,(CSHA)
2C42  FE 04      C             CP    04H
2C44  CA 2C5C    C             JP    Z,SECOND1B
2C47  3E 02      C             LD    A,02H           ;1BYTE CORRECT
2C49  32 00F6    C             LD    (CSHA),A        ;SET BEGIN SEND 2BYTE
2C4C  E1         C             POP   HL
2C4D  D1         C             POP   DE
2C4E  C1         C             POP   BC
2C4F  F1         C             POP   AF
2C50  00         C             NOP
2C51  00         C             NOP
2C52  00         C             NOP
2C53  C9         C             RET
2C54  3E 05      C SECOND1B:   LD    A,05H
2C56  32 00F6    C             LD    (CSHA),A
2C59  E1         C             POP   HL
2C5A  D1         C             POP   DE
2C5B  C1         C             POP   BC
2C5C  F1         C             POP   AF
2C5D  C9         C             RET
2C5E  3A 00FF    C CHECKSELF:  LD    A,(STATION)
2C61  5F         C             LD    E,A
2C62  3A 00EC    C             LD    A,(STRCSHA)
2C65  0F         C             RRCA
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2C6E  0F        C               RRCA
2C6F  0F        C               RRCA
2C70  0F        C               RRCA
2C71  0F        C               RRCA
2C72  E6 07     C               AND     07H
2C74  BB        C               CP      E
2C75  CA 2CE8   C               JP      Z,SELFSTATION   ;IF ZERO = SELFSTATION
2C78  26 99     C               LD      H,99H
2C7A  2E 3D     C               LD      L,3DH
                C
2C7C  2C        C SPIN1:        INC     L
2C7D  7D        C               LD      A,L
2C7E  FE 4D     C               CP      4DH
2C80  CA 2CCC   C               JP      Z,OURSEND       ;IF ZERO OUR STATION SEND
2C83  7E        C               LD      A,(HL)
2C84  E6 E0     C               AND     0E0H            ;TO COMPARE FIRST 3 BIT
2C86  5F        C               LD      E,A
2C87  3A 98EC   C               LD      A,(STRCSMA)
2C8A  E6 E0     C               AND     0E0H
2C8C  BB        C               CP      E
2C8D  C2 2C7C   C               JP      NZ,SPIN1
2C90  3A 98EC   C               LD      A,(STRCSMA)     ;CHECK LAST 4 BIT
2C93  E6 0F     C               AND     0FH
2C95  FE 0F     C               CP      0FH
2C97  CA 2CAE   C               JP      Z,SEXROUTE01
2C9A  FE 0E     C               CP      0EH
2C9C  CA 2CB9   C               JP      Z,SEXROUTE02
2C9F  FE 0D     C               CP      0DH
2CA1  CA 2CC2   C               JP      Z,SEXROUTE03
2CA4  16 FF     C               LD      D,0FFH
2CA6  CD 2A99   C               CALL    SSIG
2CA9  E1        C               POP     HL
2CAA  D1        C               POP     DE
2CAB  C1        C               POP     BC
2CAC  F1        C               POP     AF
2CAD  C9        C               RET
2CAE  3E 01     C SEXROUTE01:   LD      A,01H
2CB0  32 98F5   C               LD      (EXTROUTE),A
2CB3  E1        C               POP     HL
2CB4  D1        C               POP     DE
2CB5  C1        C               POP     BC
2CB6  F1        C               POP     AF
2CB7  C9        C               RET
2CB8  3E 02     C SEXROUTE02:   LD      A,02H
2CBA  32 98F5   C               LD      (EXTROUTE),A
2CBD  E1        C               POP     HL
2CBE  D1        C               POP     DE
2CBF  C1        C               POP     BC
2CC0  F1        C               POP     AF
2CC1  C9        C               RET
2CC2  3E 03     C SEXROUTE03:   LD      A,03H
2CC4  32 98F5   C               LD      (EXTROUTE),A
2CC7  E1        C               POP     HL
2CC8  D1        C               POP     DE
2CC9  C1        C               POP     BC
2CCA  F1        C               POP     AF
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2CC9   C9          C                RET
2CCC   3A 80F6     C OURSEND:       LD      A,(CSMA)
2CCF   FE 01       C                CP      01H
2CD1   CA 2D4D     C                JP      Z,SENDER        ;IF ZERO THIS STATION =SENDER
                   C                                        ;AND MESSAGE IS MISTAKE
2CD4   0E 10       C                LD      C,10H
2CD6   16 80       C                LD      D,80H
2CD8   CD 29F7     C                CALL    SWTP0           ;SO WRITE SWT0 TS.16 PASS SIG.
2CDB   CD 2A8A     C                CALL    CSWTP0
2CDE   16 FF       C                LD      D,0FFH
2CE0   CD 2A80     C                CALL    SSIG
2CE3   E1          C                POP     HL
2CE4   D1          C                POP     DE
2CE5   C1          C                POP     BC
2CE6   F1          C                POP     AF
2CE7   C9          C                RET
2CE8   3A 80ED     C SELFSTATION:   LD      A,(BUFFER11)
2CEB   FE FF       C                CP      0FFH
2CED   C2 2D10     C                JP      NZ,NEXT
2CF0   3A 80EC     C                LD      A,(STRCSMA)
2CF3   32 80ED     C                LD      (BUFFER11),A
2CF6   3E 05       C                LD      A,05H
2CF8   32 80F6     C                LD      (CSMA),A
2CFB   3E 09       C                LD      A,09H
2CFD   E6 DF       C                AND     0DFH
2CFF   4F          C                LD      C,A
2D00   D3 91       C                OUT     (91H),A
2D02   3E 14       C                LD      A,14H
2D04   EE E8       C                XOR     0E8H
2D06   D3 42       C                OUT     (42H),A
2D08   79          C                LD      A,C
2D09   D3 81       C                OUT     (81H),A
2D0B   E1          C                POP     HL
2D0C   D1          C                POP     DE
2D0D   C1          C                POP     BC
2D0E   F1          C                POP     AF
2D0F   C9          C                RET
2D10   3A 80ED     C NEXT:          LD      A,(BUFFER11)
2D13   5F          C                LD      E,A
2D14   3A 80EC     C                LD      A,(STRCSMA)
2D17   32 80EE     C                LD      (BUFFER12),A
2D1A   BB          C                CP      E
2D1B   CA 2D23     C                JP      Z,SUCCESS
2D1E   E1          C                POP     HL
2D1F   D1          C                POP     DE
2D20   C1          C                POP     BC
2D21   F1          C                POP     AF
2D22   C9          C                RET
2D23   3A 80F6     C SUCCESS:       LD      A,(CSMA)
2D26   FE 07       C                CP      07H
2D28   CA 2D2E     C                JP      Z,SUCCESSALL
2D2B   C3 2D48     C                JP      OVERNR1B
2D2E   3E 08       C SUCCESSALL:    LD      A,08H
2D30   32 80F6     C                LD      (CSMA),A
2D33   3E 0D       C                LD      A,0DH
2D35   E6 DF       C                AND     0DFH
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2D37  4F          C                 LD      C,A
2D38  D3 81       C                 OUT     (81H),A
2D3A  3E 14       C                 LD      A,14H
2D3C  EE E8       C                 XOR     0E8H
2D3E  D3 42       C                 OUT     (42H),A
2D40  79          C                 LD      A,C
2D41  D3 81       C                 OUT     (81H),A
2D43  E1          C                 POP     HL
2D44  D1          C                 POP     DE
2D45  C1          C                 POP     BC
2D46  F1          C                 POP     AF
2D47  C9          C                 RET
2D48  E1          C OVERWR1B:       POP     HL
2D49  D1          C                 POP     DE
2D4A  C1          C                 POP     BC
2D4B  F1          C                 POP     AF
2D4C  C9          C                 RET
                  C
2D4D  3E 01       C SENDER:         LD      A,01H
2D4F  32 00F6     C                 LD      (CSMA),A
2D52  16 FF       C                 LD      D,0FFH
2D54  CD 2A00     C                 CALL    SSIG
2D57  E1          C                 POP     HL
2D58  D1          C                 POP     DE
2D59  C1          C                 POP     BC
2D5A  F1          C                 POP     AF
2D5B  C9          C                 RET
                  C                 ;XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
                  C                 ;2BYTE
                  C                 ;XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
2D5C              C TWO:
2D5C  26 00       C                 LD      H,00H           ;CHECK VALUE SIG. IS
2D5E  2E 5B       C                 LD      L,5BH           ;THE SAME AS IN
2D60  2C          C SPINS:          INC     L
2D61  7D          C                 LD      A,L             ;2BYTE OR NOT
2D62  FE 6B       C                 CP      6BH
2D64  CA 2D74     C                 JP      Z,MSIG2
2D67  6F          C                 LD      L,A
2D68  7E          C                 LD      A,(HL)
2D69  5F          C                 LD      E,A
2D6A  3A 00EC     C                 LD      A,(STRCSMA)
2D6D  BB          C                 CP      E
2D6E  C2 2D60     C                 JP      NZ,SPINS
2D71  C3 2D89     C                 JP      LP4
2D74  26 00       C MSIG2:          LD      H,00H
2D76  2E 6A       C                 LD      L,06AH
2D78  2C          C SPINS1:         INC     L
2D79  7D          C                 LD      A,L
2D7A  FE 7A       C                 CP      07AH
2D7C  CA 2D93     C                 JP      Z,CHECK1B
2D7F  6F          C                 LD      L,A
2D80  7E          C                 LD      A,(HL)
2D81  5F          C                 LD      E,A
2D82  3A 00EC     C                 LD      A,(STRCSMA)
2D85  BB          C                 CP      E
2D86  C2 2D78     C                 JP      NZ,SPINS1
```

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2D89    3E B4       C LB4:          LD      A,B4H
2D8B    32 80F6     C               LD      (CSMA),A
2D8E    E1          C               POP     HL
2D8F    D1          C               POP     DE
2D90    C1          C               POP     BC
2D91    F1          C               POP     AF
2D92    C9          C               RET
2D93                C CHECK1B:
2D93    3A 80ED     C               LD      A,(BUFFER11)
2D96    FE FF       C               CP      0FFH
2D98    C2 2DA3     C               JP      NZ,NEXT0
2D9B    C3 2DDB     C               JP      COMMSIG
2D9E    E1          C               POP     HL
2D9F    D1          C               POP     DE
2DA0    C1          C               POP     BC
2DA1    F1          C               POP     AF
2DA2    C9          C               RET
                    C
2DA3    3A 80F0     C NEXT0:        LD      A,(BUFFER21)
2DA6    FE FF       C               CP      0FFH
2DA8    C2 2DCB     C               JP      NZ,NEXT1
2DAB    3A 80EC     C               LD      A,(STRCSMA)
2DAE    32 80F0     C               LD      (BUFFER21),A
2DB1    3E 07       C               LD      A,07H
2DB3    32 80F6     C               LD      (CSMA),A
2DB6    3E 0B       C               LD      A,0BH
2DB8    E6 DF       C               AND     0DFH
2DBA    4F          C               LD      C,A
2DBB    D3 81       C               OUT     (81H),A
2DBD    3E 14       C               LD      A,14H
2DBF    EE EB       C               XOR     0E0H
2DC1    D3 42       C               OUT     (42H),A
2DC3    79          C               LD      A,C
2DC4    D3 81       C               OUT     (81H),A
2DC6    E1          C               POP     HL
2DC7    D1          C               POP     DE
2DC8    C1          C               POP     BC
2DC9    F1          C               POP     AF
2DCA    C9          C               RET
2DCB    3A 80F1     C NEXT1:        LD      A,(BUFFER22)
2DCE    FE FF       C               CP      0FFH
2DD0    C2 2E58     C               JP      NZ,NEXT2
2DD3    3A 80F6     C               LD      A,(CSMA)
2DD5    FE FF       C               CP      0FFH
2DD8    C2 2E4A     C               JP      NZ,NET2
2DDB    3A 80EC     C COMMSIG:      LD      A,(STRCSMA)
2DDE    FE 1B       C               CP      1BH
2DE0    CA 2DF3     C               JP      Z,CANCEL0
2DE3    3A 80F6     C               LD      A,(CSMA)
2DE6    FE 13       C               CP      13H
2DE8    CA 2E12     C               JP      Z,STRCOMD
2DEB    FE 1B       C               CP      1BH
2DED    CA 2E28     C               JP      Z,SR29
2DF0    C3 2E40     C               JP      COMDOUT
2DF3                C CANCEL0:      ;
2DF3    3A 80F6     C               LD      A,(CSMA)
```

```
2DF6  FE 14      C              CP      14H
2DF8  CA 2E28    C              JP      Z,RR3B
2DFB  FE 09      C              CP      09H
2DFD  CA 2E30    C              JP      Z,SR1B
2E00  FE 04      C              CP      04H
2E02  CA 2E38    C              JP      Z,SR3B
2E05  FE 11      C              CP      11H
2E07  CA 2E38    C              JP      Z,SR3B
2E0A  3E 13      C              LD      A,13H
2E0C  32 00F6    C              LD      (CSMA),A
2E0F  C3 2E40    C              JP      COMDOUT
2E12             C STRCOMD:     ;
2E12  3A 00EC    C              LD      A,(STRCSMA)
2E15  32 00F8    C              LD      (COMMAND),A
2E18  3E 14      C              LD      A,14H
2E1A  32 00F6    C              LD      (CSMA),A
2E1D  C3 2E40    C              JP      COMDOUT
2E20             C SR2B:        ;
2E20  3E 11      C              LD      A,11H
2E22  32 00F6    C              LD      (CSMA),A
2E25  C3 2E40    C              JP      COMDOUT
2E28             C RR3B:        ;
2E28  3E 15      C              LD      A,15H
2E2A  32 00F6    C              LD      (CSMA),A
2E2D  C3 2E40    C              JP      COMDOUT
2E30             C SR1B:        ;
2E30  3E 10      C              LD      A,10H
2E32  32 00F6    C              LD      (CSMA),A
2E35  C3 2E40    C              JP      COMDOUT
2E38             C SR3B:        ;
2E38  3E 12      C              LD      A,12H
2E3A  32 00F6    C              LD      (CSMA),A
2E3D  C3 2E40    C              JP      COMDOUT
2E40             C COMDOUT:     ;
2E40  16 FF      C              LD      D,0FFH
2E42  CD 2A90    C              CALL    SSIB
2E45  E1         C              POP     HL
2E46  D1         C              POP     DE
2E47  C1         C              POP     BC
2E48  F1         C              POP     AF
2E49  C9         C              RET
                 C
2E4A  C3 2DDB    C NET2:        JP      COMMSIG
2E4D  3A 00EC    C              LD      A,(STRCSMA)
2E50  32 00F1    C              LD      (BUFFER22),A
2E53  E1         C              POP     HL
2E54  D1         C              POP     DE
2E55  C1         C              POP     BC
2E56  F1         C              POP     AF
2E57  C9         C              RET
2E58  3A 00EC    C NEXT2:       LD      A,(STRCSMA)
2E5B  32 00F2    C              LD      (BUFFER23),A
2E5E  E1         C              POP     HL
2E5F  D1         C              POP     DE
2E60  C1         C              POP     BC
2E61  F1         C              POP     AF
```

```
2E62  C9          C                 RET
                  C
2E63              C BYPASSSIG:      ;*****
                  C ;THIS STATE BYPASS SIG
2E63  3E 0F       C                 LD      A,0FH
2E65  30          C                 DB      SIM
2E66  F3          C                 DI
                  C ;TO DISALE INTERRUPT
2E67  E1          C                 POP     HL
2E68  D1          C                 POP     DE
2E69  C1          C                 POP     BC
2E6A  F1          C                 POP     AF
2E6B  C9          C                 RET
                  C ;*****************************************
                  C ;.....................................
2E6C              C RST7.5:         ;
2E6C  F3          C                 DI
2E6D  F5          C                 PUSH    AF
2E6E  C5          C                 PUSH    BC
2E6F  D5          C                 PUSH    DE
2E70  E5          C                 PUSH    HL
2E71  3E 0D       C                 LD      A,0DH
2E73  30          C                 DB      SIM
2E74  F3          C                 DI
                  C ;DISABLE INTERRUPT
2E75  3E 00       C                 LD      A,00H
2E77  32 00F6     C                 LD      (CSMA),A
                  C ;STOP SEND SIG. TS 416
2E7A  E1          C                 POP     HL
2E7B  D1          C                 POP     DE
2E7C  C1          C                 POP     BC
2E7D  F1          C                 POP     AF
2E7E  C9          C                 RET
                  C ;.....................................
                  C
2E7F  3E 00       C WAIT8S:         LD      A,00H
2E81  D3 84       C                 OUT     (84H),A
2E83  3E 0F       C                 LD      A,00FH
2E85  D3 85       C                 OUT     (85H),A
2E87  3A 00F3     C                 LD      A,(CONTROL2)
2E8A  F6 C0       C                 OR      0C0H
2E8C  D3 00       C                 OUT     (08H),A
2E8E  32 00F3     C                 LD      (CONTROL2),A
2E91  C9          C                 RET
                  C
2E92  3E DD       C CLRDIAL:        LD      A,0DDH
2E94  D3 91       C                 OUT     (91H),A
2E96  3E 00       C                 LD      A,00H
2E99  D3 42       C                 OUT     (42H),A
2E9A  3E DD       C                 LD      A,0DDH
2E9C  D3 91       C                 OUT     (91H),A
2E9E  C9          C                 RET
                  C
                  C ;CLRBUSY:       LD      A,0DEH
                  C ;               OUT     (91H),A
                  C ;               LD      A,00H
```

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                        C ;             OUT     (42H),A
                        C ;             LD      A,0DEH
                        C ;             OUT     (91H),A
                        C ;             RET
                        C
2E9F                    C CLRRR:
2E9F    3E DF           C               LD      A,0DFH
2EA1    D3 91           C               OUT     (91H),A
2EA3    3E 00           C               LD      A,00H
2EA5    D3 42           C               OUT     (42H),A
2EA7    3E DF           C               LD      A,0DFH
2EA9    D3 91           C               OUT     (91H),A
2EAB    C9              C               RET
                        C
2EAC    0E 1E           C SBUSY:        LD      C,1EH
2EAE    16 2D           C               LD      D,2DH
2EB0    CD 29F7         C               CALL    SWTR0
2EB3    CD 2AB4         C               CALL    CSWTR0
2EB6    C9              C               RET
                        C
                        C
2EB7                    C ARRANGE1:     ;       FORMAT 1BYTE
                        C               ;       OUT ST. D DV. = D
2EB7    78              C               LD      A,B
2EB8    C6 98           C               ADD     A,98H
2EBA    26 00           C               LD      H,00H
2EBC    6F              C               LD      L,A
2EBD    5E              C               LD      E,(HL)          ;E = STATION NO.
2EBE    78              C               LD      A,B
2EBF    C6 B6           C               ADD     A,0B6H
2EC1    26 00           C               LD      H,00H
2EC3    6F              C               LD      L,A
2EC4    56              C               LD      D,(HL)          ;D = DEVICE NO.(DESTINATION)
2EC5    7A              C               LD      A,D
2EC6    E6 0F           C               AND     0FH
2EC8    57              C               LD      D,A
2EC9    7B              C               LD      A,E
2ECA    07              C               RLCA                    ;ARRANGE STATION NO.
2ECB    07              C               RLCA
2ECC    07              C               RLCA
2ECD    07              C               RLCA
2ECE    07              C               RLCA
2ECF    E6 E0           C               AND     0E0H            ;MAKE STATON NO. TO
                        C                                       ;MOST SIGN BIT
2ED1    AA              C               XOR     D               ;COMBINE TO 1BYTE
2ED2    E6 EF           C               AND     0EFH            ;SET 4 BIT TO T.
2ED4    57              C               LD      D,A
2ED5    C9              C               RET
                        C
2ED6                    C ARRANGE2:     ;INP TS.=C
2ED6    26 00           C               LD      H,00H
2ED8    78              C               LD      A,B
2ED9    C6 D4           C               ADD     A,0D4H
2EDB    6F              C               LD      L,A
2EDC    56              C               LD      D,(HL)
2EDD    C9              C               RET
```

```
2EDE                    C STORE1BYTE:   ;INP DVC=B
                        C               ;DVCB STORE AT 3054H
                        C               LD      H,30H
2EDE    26 30           C               LD      A,54H
2EE0    3E 54           C               ADD     A,B
2EE2    80              C               LD      L,A
2EE3    6F              C               LD      (HL),D
2EE4    72              C               RET
2EE5    C9              C
                        C
2EE6                    C STORE2BYTE:   ;INP TSC = C= D
2EE6    3E 5C           C               LD      A,5CH
2EE8    80              C               ADD     A,B
2EE9    26 30           C               LD      H,30H
2EEB    6F              C               LD      L,A
2EEC    72              C               LD      (HL),D
2EED    C9              C               RET
                        C
2EEE                    C COPYTS: ;
2EEE    26 90           C               LD      H,90H
2EF0    79              C               LD      A,B
2EF1    C6 D4           C               ADD     A,0D4H
2EF3    6F              C               LD      L,A
2EF4    71              C               LD      (HL),C
2EF5    C9              C               RET
                        C
2EF6                    C READTS: ;   FUNCTION READ TSC
                        C         ;   INP  DVC = B
                        C         ;   OUT  TSC = C
2EF6    26 90           C               LD      H,90H
2EF8    78              C               LD      A,B
2EF9    C6 D4           C               ADD     A,0D4H
2EFB    6F              C               LD      L,A
2EFC    4E              C               LD      C,(HL)
2EFD    C9              C               RET
                        C
2EFE                    C STREXTS:      ;
2EFE    26 40           C               LD      H,40H
2F00    78              C               LD      A,B
2F01    C6 96           C               ADD     A,096H
2F03    6F              C               LD      L,A
2F04    71              C               LD      (HL),C
2F05    C9              C               RET
                        C
2F06                    C RDEXTS: ;
2F06    26 40           C               LD      H,40H
2F08    78              C               LD      A,B
2F09    C6 96           C               ADD     A,096H
2F0B    6F              C               LD      L,A
2F0C    4E              C               LD      C,(HL)
2F0D    C9              C               RET
                        C
2F0E    26 90           C CLRSWTBB:     LD      H,90H
2F10    78              C               LD      A,B
2F11    EE D0           C               XOR     0D0H
2F13    6F              C               LD      L,A
2F14    4E              C               LD      C,(HL)          ;OLD TIME SLOT
```

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2F15    16 00       C               LD      D,00H
2F17    CD 29F7     C               CALL    SWI00
2F1A    16 FF       C               LD      D,0FFH
2F1C    CD 2A04     C               CALL    CSWI00
2F1F    C9          C               RET

                    C
2F20                C STRSTATE:     ;INP DV: = 0
2F20    26 00       C               LD      H,00H
2F22    78          C               LD      A,B
2F23    C6 20       C               ADD     A,20H
2F25    6F          C               LD      L,A
2F26    73          C               LD      (HL),E
2F27    C9          C               RET
                    C
                    C
2F28                C READSTATE:    ;INP DV: =0
2F28    F3          C               DI
2F29    26 00       C               LD      H,00H
2F2B    78          C               LD      A,B
2F2C    C6 20       C               ADD     A,20H
2F2E    6F          C               LD      L,A
2F2F    7E          C               LD      A,(HL)
2F30    C9          C               RET
                    C
2F31                C RING:         ;FUNCTION RINGING TELEPHONE
2F31    CD 2B24     C               CALL    SETCLR
2F34    CD 2AA4     C               CALL    POLLSETDV
2F37    3E D8       C               LD      A,0D8H
2F39    D3 81       C               OUT     (81H),A         ;SDI(B)=0
2F3B    00          C               NOP
2F3C    00          C               NOP
2F3D    3E 79       C               LD      A,79H
2F3F    D3 81       C               OUT     (81H),A         ;CLK = 0
2F41    00          C               NOP
2F42    00          C               NOP
2F43    3E F8       C               LD      A,0F8H
2F45    D3 81       C               OUT     (81H),A         ;CLK = 1
2F47    00          C               NOP
2F48    00          C               NOP
2F49    CD 0968     C               CALL    CLRSET
2F4C    CD 2A88     C               CALL    POLLCLR
2F4F    C9          C               RET
                    C
2F50                C CRING:        ;FUNCTION STOP RINGING TELEPHONE
2F50    CD 2B24     C               CALL    SETCLR
2F53    CD 2AA4     C               CALL    POLLSETDV
2F56    3E D9       C               LD      A,0D9H
2F58    D3 81       C               OUT     (81H),A         ;SDI(B)= 1
2F5A    00          C               NOP
2F5B    00          C               NOP
2F5C    3E 79       C               LD      A,79H
2F5E    D3 81       C               OUT     (81H),A         ;CLK = 0
2F60    00          C               NOP
2F61    00          C               NOP
2F62    3E F9       C               LD      A,0F9H
2F64    D3 81       C               OUT     (81H),A         ;CLK = 1
```

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2F66    00          C               NOP
2F67    00          C               NOP
2F68    CD 0968     C               CALL    CLRSET
2F6B    CD 2AB9     C               CALL    POLLCLR
2F6E    C9          C               RET
                    C
2F6F                C ONRELAY:      ;
                    C ;WE HAVE SOME PROBLEM ABOUT ON RELAY SO CHANGE
                    C ;FROM PORT 83H TO 81H
2F6F    CD 2B24     C               CALL    SETCLR
2F72    CD 2AA4     C               CALL    POLLSETDV
2F75    3E D8       C               LD      A,0D8H
2F77    D3 81       C               OUT     (81H),A
2F79    00          C               NOP
2F7A    3E 78       C               LD      A,78H
2F7C    D3 81       C               OUT     (81H),A
2F7E    00          C               NOP
2F7F    00          C               NOP
2F80    3E F8       C               LD      A,0F8H
2F82    D3 81       C               OUT     (81H),A
2F84    00          C               NOP
2F85    CD 0968     C               CALL    CLRSET
2F88    CD 2AB8     C               CALL    POLLCLR
2F8B    C9          C               RET
                    C
2F8C                C OFFRELAY:     ;
2F8C    CD 2B24     C               CALL    SETCLR
2F8F    CD 2AA4     C               CALL    POLLSETDV
2F92    3E 84       C               LD      A,84H
2F94    D3 83       C               OUT     (83H),A
2F96    00          C               NOP
2F97    3E 79       C               LD      A,79H
2F99    D3 81       C               OUT     (81H),A
2F9B    00          C               NOP
2F9C    00          C               NOP
2F9D    3E F9       C               LD      A,0F9H
2F9F    D3 81       C               OUT     (81H),A
2FA1    00          C               NOP
2FA2    CD 0968     C               CALL    CLRSET
2FA5    CD 2AB8     C               CALL    POLLCLR
2FA8    C9          C               RET
                    C
2FA9                C CHECKEND:     ;FOR NEW INITIAL
2FA9    3A 80FD     C               LD      A,(DIALER1)
2FAC    FE          C               CP      9
2FAD    CA 2FB3     C               JP      Z,MARK
2FB0    1E 00       C               LD      E,00H
2FB2    C9          C               RET
2FB3    1E 08       C MARK:         LD      E,08H
2FB5    C9          C               RET
                    C
                    C       ;MICRO UTILITY ROUTINE
2FB6                C MSTR1BYTE:    ;INP DV=B
                    C               ;DV=1BH STORE AT 80B4H
2FB6    26 80       C               LD      H,80H
2FB8    3E 3E       C               LD      A,3EH
```

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2F9A    80          C               ADD     A,B
2F9B    6F          C               LD      L,A
2F9C    72          C               LD      (HL),D
2F9D    C9          C               RET
                    C
2F9E                C MSTR2BYTE:    ;DV.10H. STORE AT 80C4H
2F9E    26 80       C               LD      H,80H
2FC0    3E 5C       C               LD      A,5CH
2FC2    80          C               ADD     A,B
2FC3    6F          C               LD      L,A
2FC4    72          C               LD      (HL),D
2FC5    C9          C               RET
                    C
2FC6                C MREADRAM:     ;TO FIND TS:
                    C ;
                    C ;
2FC6    26 80       C               LD      H,80H
2FC8    2E 10       C               LD      L,10H
2FCA    2C          C INC1:         INC     L
2FCB    7D          C               LD      A,L
2FCC    FE 20       C               CP      20H
2FCE    CA 2FE6     C               JP      Z,INC11
2FD1    FE 10       C               CP      10H
2FD3    CA 2FE9     C               JP      Z,CBACK
2FD6    7E          C               LD      A,(HL)
2FD7    FE FF       C               CP      0FFH
2FD9    CA 2FDF     C               JP      Z,TSEMPTY1
2FDC    C3 2FCA     C               JP      INC1
2FDF    7D          C TSEMPTY1:     LD      A,L
2FE0    E6 1F       C               AND     1FH
2FE2    4F          C               LD      C,A
2FE3    C3 2FE9     C               JP      CBACK
2FE6    0E 20       C INC11:        LD      C,20H
2FE8    C9          C CBACK:        RET
                    C
2FE9                C CHECKDTR:     ;
2FE9    3E 0D       C               LD      A,0DH           ;SET RST6.5
2FEB    30          C               DB      SIM
2FEC    FB          C               EI
2FED    3E D0       C               LD      A,0D0H
2FEF    D3 91       C               OUT     (91H),A
2FF1    DB 92       C               IN      A,(92H)
2FF3    E6 0F       C               AND     0FH
2FF5    F6 0D       C               OR      0DH
2FF7    FE 0D       C               CP      0DH
2FF9    C2 3000     C               JP      NZ,.D           ;IF ZERO DTR ACTIVE
2FFC    3E 88       C               LD      A,88H             .
2FFE    32 80F7     C               LD      (DTR),A
3001    78          C               LD      A,B             ;TO SHOW DV. STATUS
3002    07          C               RLCA
3003    07          C               RLCA
3004    07          C               RLCA
3005    07          C               RLCA
3006    E6 F0       C               AND     0F0H            ;DV. IS ON LEFT HALF
3008    EE 04       C               XOR     04H             ;IF DIR = 1
300A    D3 30       C               OUT     (30H),A         ;SEND DV. + 04H AT PORT 30H
```

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300C   C9          C               RET
300D   3E 99       C .D:           LD      A,99H
300F   32 00F7     C               LD      (DTR),A
3012   1E 00       C               LD      E,00H
3014   CD 302B     C               CALL    STRNSTATE
3017   78          C               LD      A,B             ;TO SHOW DV. STATUS
3018   07          C               RLCA
3019   07          C               RLCA
301A   07          C               RLCA
301B   07          C               RLCA
301C   E6 F8       C               AND     0F8H
301E   EE 03       C               XOR     03H             ;IF DTR = 0
3020   D3 30       C               OUT     (30H),A         ;SEND DV. + 03H AT PORT 30H
3022   C9          C               RET
            C
3023                C READHSTATE:   ;FUNCTION READ STATUS  OF DV
            C                       ;INP DV.=B
3023   26 00       C               LD      H,00H
3025   78          C               LD      A,B
3026   C6 20       C               ADD     A,20H
3028   6F          C               LD      L,A
3029   7E          C               LD      A,(HL)
302A   C9          C               RET
            C
302B                C STRNSTATE:    ;INP STAATUS AAT REG. E
302B   26 00       C               LD      H,00H
302D   78          C               LD      A,B
302E   C6 20       C               ADD     A,20H
3030   6F          C               LD      L,A
3031   73          C               LD      (HL),E
3032   C9          C               RET
            C
3033                C MARRANGE1:    ;FORMAT SIGNAALLNG
3033   26 00       C               LD      H,00H
3035   78          C               LD      A,B
3036   C6 90       C               ADD     A,90H
3038   6F          C               LD      L,A
3039   5E          C               LD      E,(HL)          ;E=STAATION NO.
303A   26 00       C               LD      H,00H
303C   78          C               LD      A,B
303D   C6 B6       C               ADD     A,0B6H
303F   6F          C               LD      L,A
3040   56          C               LD      D,(HL)          ;D=DEVICE NO.
3041   7A          C               LD      A,D
3042   E6 0F       C               AND     0FH
3044   57          C               LD      D,A
3045   7B          C               LD      A,E
3046   07          C               RLCA
3047   07          C               RLCA
3048   07          C               RLCA
3049   07          C               RLCA
304A   07          C               RLCA
304B   E6 E0       C               AND     0E0H
304D   AA          C               XOR     D
304E   F6 10       C               OR      10H             ;SET DATA BIT =1
3050   57          C               LD      D,A
```

```
3051    C9          C               RET
                    C
3052                C MSSIG1B:      ;INP    DV:=B
3052    26 00       C               LD      H,00H
3054    78          C               LD      A,B
3055    C6 3E       C               ADD     A,3EH
3057    6F          C               LD      L,A
3058    56          C               LD      D,(HL)
3059    CD 2A00     C               CALL    SSIG            ;THIS ROUTINEE CAN USED WITH MICRO TOO.
305C    C9          C               RET
                    C
305D                C MSSIG2B:      ;INP    DV:=B
305D    26 00       C               LD      H,00H
305F    78          C               LD      A,B
3060    C6 5C       C               ADD     A,5CH
3062    6F          C               LD      L,A
3063    56          C               LD      D,(HL)
3064    CD 2A00     C               CALL    SSIG            ;TTHII ROUTIN CAN USED WITH MICRO TOO.
3067    C9          C               RET
                    C
3068                C RDESRING:     ;FUNCTION CHANGE SOURCE STATE = 00H
                    C               ;CHANGE DES. STATE = 00H
                    C               ;CLEAR STATION & DV : (DES.)
3068    1E 00       C               LD      E,00H
306A    CD 2F20     C               CALL    STRSTATE
306D    26 00       C               LD      H,00H
306F    78          C               LD      A,B
3070    C6 B6       C               ADD     A,0B6H
3072    6F          C               LD      L,A
3073    7E          C               LD      A,(HL)          ;FIND DES.NUMBER
3074    50          C               LD      D,B
3075    47          C               LD      B,A
3076    1E 00       C               LD      E,00H
3078    CD 2F20     C               CALL    STRSTATE
307B    42          C               LD      B,D
307C    1E 00       C               LD      E,00H
307E    CD 2F20     C               CALL    STRSTATE
3081    3E FF       C               LD      A,0FFH
3083    32 00FA     C               LD      (DECODE1),A
3086    32 00FB     C               LD      (DECODE2),A
3089    26 00       C               LD      H,00H           ;CLEAR ST: & DV:
308B    78          C               LD      A,B
308C    C6 98       C               ADD     A,098H
308E    6F          C               LD      L,A
308F    3E FF       C               LD      A,0FFH
3091    77          C               LD      (HL),A
3092    78          C               LD      A,B
3093    C6 B6       C               ADD     A,0B6H
3095    6F          C               LD      L,A
3096    3E FF       C               LD      A,0FFH
3098    77          C               LD      (HL),A
3099    C9          C               RET
                    C
309A                C INITHS:       ;FUNCTION INITIAL RLSD,DSR,RFS=0
309A    3E 67       C               LD      A,67H
309C    D3 81       C               OUT     (81H),A
```

```
38EB  32 98F8    C          LD      (DECODE2),A
38EE  1E FF      C          LD      E,0FFH
38F0  26 00      C          LD      H,00H
38F2  78         C          LD      A,B
38F3  C6 98      C          ADD     A,98H
38F5  6F         C          LD      L,A
38F6  73         C          LD      (HL),E
38F7  79         C          LD      A,B
38F8  C6 B6      C          ADD     A,0B6H
38FA  6F         C          LD      L,A
38FB  73         C          LD      (HL),E
38FC  C9         C          RET
                 C
38FD             C CLRTS:   ;FUNCTION CLEAR TS. THAT CONNECT TO THIS DV.
                 C          ;INP E= NUMBER OF TS. TO BE DELETED
38FD  CD 2866    C          CALL    SDWRAM
3100  0D         C          DEC     C
3101  0D         C          DEC     C
3102  1D         C .B:      DEC     E
3103  0C         C          INC     C
3104  16 00      C          LD      D,00H
3106  CD 29F7    C          CALL    SWT90
3109  16 FF      C          LD      D,0FFH
310B  CD 2A04    C          CALL    DSWT90
310E  79         C          LD      A,E
310F  FE 00      C          CP      00H
3111  C2 3102    C          JP      NZ,.B
3114  C9         C          RET
                 C
3115             C RDELAY:  ;FUNCTION DELAY FOR RINGING
3115  3E FF      C          LD      A,0FFH
3117  3D         C LAY:     DEC     A
3118  FE 00      C          CP      00H
311A  C2 3117    C          JP      NZ,LAY
311D  3E FF      C          LD      A,0FFH
311F  3D         C LAY1:    DEC     A
3120  FE 00      C          CP      00H
3122  C2 311F    C          JP      NZ,LAY1
3125  3E FF      C          LD      A,0FFH
3127  3D         C LAY2:    DEC     A
3128  FE 00      C          CP      00H
312A  C2 3127    C          JP      NZ,LAY2
312D  3E FF      C          LD      A,0FFH
312F  3D         C LAY3:    DEC     A
3130  FE 00      C          CP      00H
3132  C2 312F    C          JP      NZ,LAY3
3135  3E FF      C          LD      A,0FFH
3137  3D         C LAY4:    DEC     A
3138  FE 00      C          CP      00H
313A  C2 3137    C          JP      NZ,LAY4
313D  C9         C          RET
                 C
313E             C RDELAYV1:   ;FUNCTION DELAY FOR RINGING
313E  3E FF      C          LD      A,0FFH
3140  3D         C LAYV1:     DEC     A
3141  FE 00      C          CP      00H
```

```
3143  C2 3140    C              JP      NZ,LAY4V1
3146  3E FF      C              LD      A,0FFH
3148  3D         C LAY1V1:      DEC     A
3149  FE 00      C              CP      00H
3148  C2 3148    C              JP      NZ,LAY1V1
314E  3E FF      C              LD      A,0FFH
3150  3D         C LAY2V1:      DEC     A
3151  FE 00      C              CP      00H
3153  C2 3150    C              JP      NZ,LAY2V1
3156  3E FF      C              LD      A,0FFH
3158  3D         C LAY3V1:      DEC     A
3159  FE 00      C              CP      00H
315B  C2 3158    C              JP      NZ,LAY3V1
315E  3E FF      C              LD      A,0FFH
3160  3D         C LAY4V1:      DEC     A
3161  FE 00      C              CP      00H
3163  C2 3160    C              JP      NZ,LAY4V1
3166  3E FF      C              LD      A,0FFH
3168  3D         C LAY5V1:      DEC     A
3169  FE 00      C              CP      00H
316B  C2 3169    C              JP      NZ,LAY5V1
316E  3E FF      C              LD      A,0FFH
3170  3D         C LAY6V1:      DEC     A
3171  FE 00      C              CP      00H
3173  C2 3170    C              JP      NZ,LAY6V1
3176  C9         C              RET
                  C
                  C
3177               C LPDELAY:     ;FUNCTION DELAY 16 BIT
3177  26 FF      C              LD      H,0FFH
3179  2E FF      C              LD      L,0FFH
317B  2B         C DELAY:       DEC     HL
317C  7C         C              LD      A,H
317D  B5         C              OR      L
317E  C2 3179    C              JP      NZ,DELAY
                  C ;            LD      H,0FFH
                  C ;            LD      L,0FFH
                  C ;DELAY0:     DEC     HL
                  C ;            LD      A,H
                  C ;            OR      L
                  C ;            JP      NZ,DELAY0
                  C
3181  C9          C              RET
                  C
3182               C TEST:   ;
3182  0E 10      C              LD      C,010H
3184  16 62      C              LD      D,62H
3186  CD 29F7    C              CALL    SWT99
3189  CD 2A84    C              CALL    CSWT00
318C  76         C              HALT
                  C
                  C              END
```

ภาคผนวก ฉ

ไดอะแกรมสถานะ ของโปรโตคอล CSMA/CD ตามมาตรฐาน IEEE 802.3

Appendix C
State Diagram, MAC Sublayer

C1. Introduction

This Appendix contains a generalized state machine description of the CSMA/CD procedures for MAC. It is supportive of the formal procedures defined in 4.2. It is assumed that the reader is familiar with those formal descriptions.

The state diagrams of this Appendix are descriptive rather than definitional. The formal statements of 4.2 provide the definitive specifications.

C2. CSMA/CD Media Access Control State Machine Overview

The CSMA/CD MAC consists of two components: the transmit component and the receive component. These components operate concurrently and independently.

C2.1 Transmit Component Overview. The transmit component is responsible for handling all events that affect the transmission of a frame onto the medium (see Fig C1).

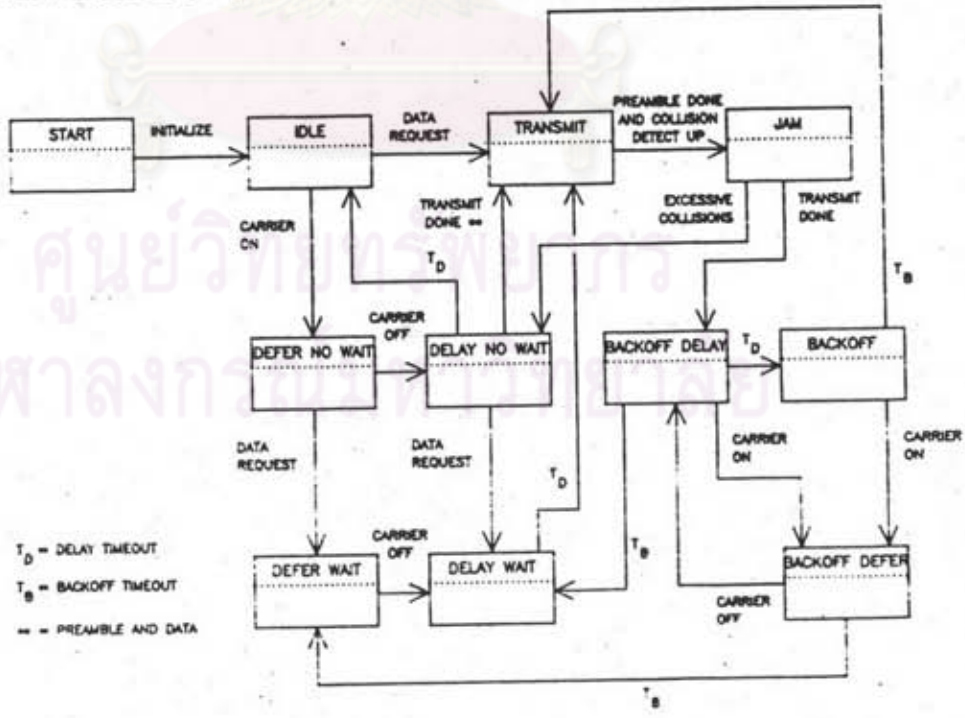


Fig C1
Transmit Component State Diagram

Table C1
Transmit Component State Transition

Current State	Event	Action	Next State
0. Start	Initialize	- Perform Initialization	Idle
1. Idle	Data Request	- Construct Frame - Start Frame Transmission	Transmit
	Carrier On	- No Action	Defer No Wait
2. Transmit	Preamble Done AND Collision Detect Up	- Start Jam Transmission - Increment Attempt Count	Jam
	Transmit Done	- Start Delay Timer - Reset Attempt Count - Indicate successful Transmission	Delay No Wait
3. Jam	Transmit Done	- Start Delay Timer - Start Backoff Timer	Backoff Delay
	Excessive Collisions	- Start Delay Timer - Indicate Transmit Excessive Collisions	Delay No Wait
4. Backoff	Carrier On	- No Action	Backoff Defer
	Back off Timeout	- Start Frame Transmission	Transmit
5. Backoff Defer	Carrier Off	- Start Delay Timer	Backoff Delay
	Backoff Timeout	- No Action	Defer Wait
6. Backoff Delay	Carrier On	- Stop Delay Timer	Backoff Defer
	Delay Timeout	- No Action	Backoff
	Backoff Timeout	- No Action	Delay Wait
7. Defer No Wait	Data Request	- Construct Frame	Defer Wait
	Carrier Off	- Start Delay Timer	Delay No Wait
8. Delay No Wait	Data Request	- Construct Frame	Delay Wait
	Delay Timeout	- No Action	Idle
9. Defer Wait	Carrier Off	- Start Delay Timer	Delay Wait
10. Delay Wait	Delay Timeout	- Start Frame Transmission	Transmit

C2.2 Transmit Component Event Descriptions

Initialize. This event is generated by management to start up the component.

Data Request. This event is generated by the LLC sublayer. It indicates there is a PDU to be transmitted.

Carrier On. This event indicates that the physical layer has detected a change in carrier sense from no carrier to carrier.

Carrier Off. This event indicates that the physcial layer has detected a change in the state of carrier sense from carrier to no carrier.

Preamble Done AND Collision Detect Up. This event indicates that the physical layer has detected a collision with the frame being transmitted and the transmission of the preamble sequence is completed.

Delay Timeout. This event indicates that the interframe time delay has completed.

Backoff Timeout. This event indicates that the time period for backing off has completed.

Transmit Done. The bit transmitter has transmitted all of the bits in the transmit buffer specified by the transmit buffersize (which includes preamble and data).

Excessive Collisions. The bit transmitter has transmitted all of the bits in the transmit buffer specified by the transmit buffersize, and the attempt count is equal to the maximum transmit attempt count allowed.

C2.3 Transmit Component Action Descriptions

Construct Frame. This action encapsulates the data field with the Preamble, SFD, DA, SA, Length, PAD and FCS fields.

Start Frame Transmission. This action initiates bit transmission of the frame.

Start Jam Transmission. This action causes the bit transmitter to transmit the bits of the jam pattern.

Indicate Successful Transmission: This action reports that the transmission was successful.

Indicate Transmit Failure. This action reports the failure of transmission and the reason.

Increment Attempt Count. This action increments the counter used to record the number of attempts made to transmit the same frame.

Reset Attempt Count. This action initializes the attempt count to 0.

Start Backoff Timer. This action computes the random backoff delay time and sets the backoff timer to that time.

Start Delay Timer. This action sets the delay timer to the interframe gap time.

Stop Delay Timer. This action turns the delay timer off.

Perform Initialization. This action turns all timers off and ensures that carrier is considered off and collision detect down. All counters are reset. Any implementation specific variables are initialized.

C2.4 Transmit Component State Descriptions

Start. The transmit component has not been initialized by management.

Idle. The transmit component is not transmitting any data nor is it in a state where it is prevented from transmitting data.

Transmit. The transmit component is actively transmitting bits onto the medium.

Jam. The transmit component is actively transmitting jam bits onto the medium.

Backoff. The transmit component is waiting for its random backoff delay to expire before attempting to retransit a frame.

Backoff Defer. The transmit component is waiting for both the medium to become available and for its backoff time delay to expire before attempting to retransmit a frame.

Backoff Delay. The transmit component is waiting for the interframe gap and the backoff delays to expire before attempting to retransmit a frame.

Defer No Wait. The transmit component has no frame to transmit and it cannot transmit one if it gets one because the medium is busy.

Delay No Wait. The transmit component has no frame to transmit and it could not if it had one because it is waiting for the interframe gap time to expire.

Defer Wait. The transit component is waiting for the medium to become free before attempting to transmit or retransmit the frame.

Delay Wait. The transmit component is waiting for the interframe gap time to expire before attempting to transmit or retransmit the frame.

C3. Receive Component Overview

The receive component is responsible for handling all events that affect the reception of a frame from the media (see Fig C2).

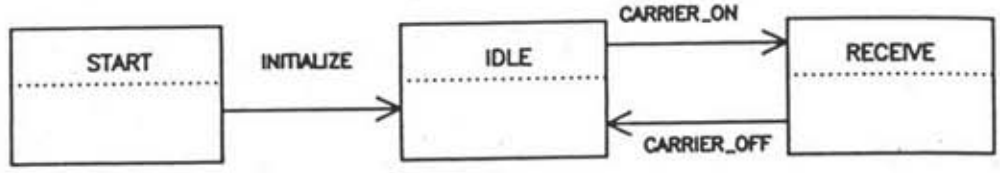


Fig C2
Receive Component State Diagram

Table C2
Receive Component State Transition

Current State	Event	Action	Next State
0. Start	Initialize	- Perform Initialization	Idle
1. Idle	Carrier On	- Start Receiving	Receive
2. Receive	Carrier Off	- Process Frame Received	Idle

C3.1 Receive Component Event Descriptions

Initialize. This event is generated by management to start up the component.

Carrier On. This event indicates that the physical layer has detected a change in carrier sense from no carrier to carrier.

Carrier Off. This event indicates that the physical layer has detected a change in the state of carrier sense from carrier to no carrier.

C3.2 Receive Component Action Descriptions

Perform Initialization. This action turns all timers off and ensures that carrier is considered off and collision detect down. All counters are reset. Any implementation specific variables are initialized.

Start Receiving. This action begins the processes of accepting bits and appending them to the buffer used to contain the frame.

Process Frame Received. If the frame is not addressed to this station then ignore the frame. Otherwise check the frame for errors. If there are no errors pass the frame up to the LLC sublayer indicating no error. Otherwise, pass the frame to the LLC sublayer indicating the error.

C3.3 Receive Component State Descriptions

Start. The receive component has not been initialized by management.

Idle. The receive component is not actively receiving bits of data from the line.

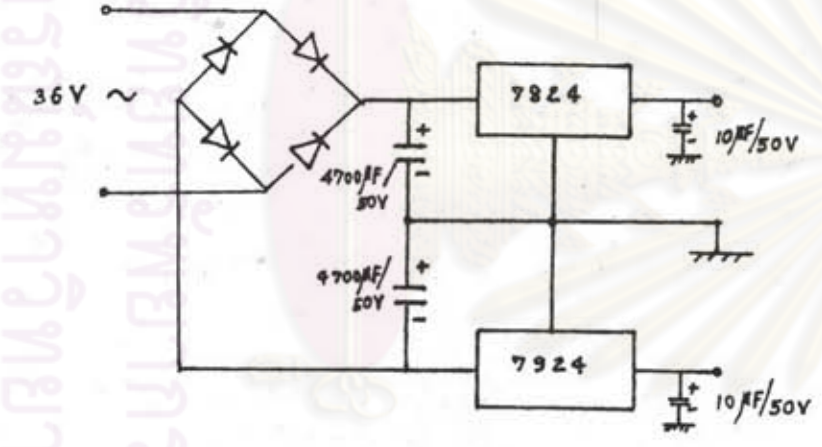
Receive. The receive component is receiving bits of data from the line.

Editorial Changes to Second Printing

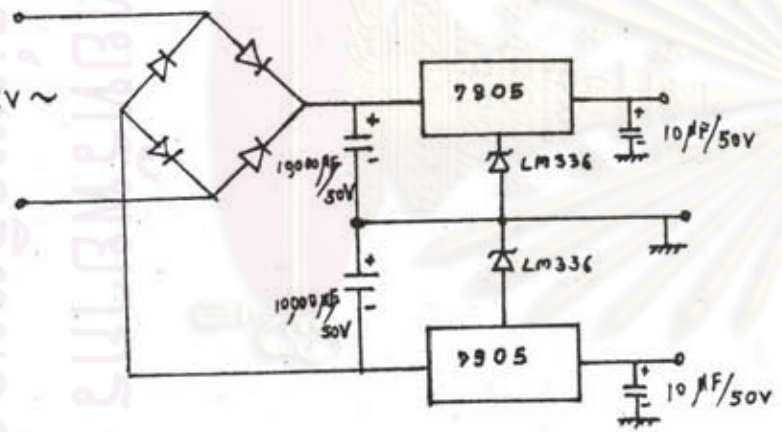
p. 85 .....7.4.1.2: subsection title added
p. 91 .....7.5.2.3: reference in second paragraph changed to 7.3.1.2
p. 136 .....Fig B2 revised

ภาคผนวก ช

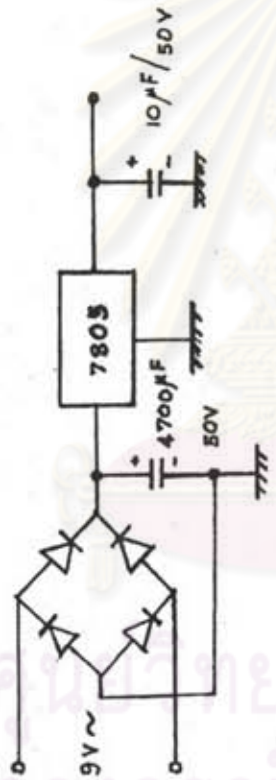
วงจรแหล่งจ่ายไฟที่ใช้งาน



ช.1 แสดงแหล่งจ่ายแรงดัน +24โวลท์และ-24โวลท์ 2 แอมแปร์



ช.2 แสดงแหล่งจ่ายแรงดัน +7.5โวลท์และ-7.5โวลท์ 2 แอมแปร์



ร.3 แสดงแหล่งจ่ายแรงดัน 5 โวลท์ 10 แอมแปร์

ประวัติผู้เขียน

นายธีรวัฒน์ คำดี เกิดเมื่อวันที่ 30 พฤษภาคม 2506 ที่กรุงเทพมหานคร ได้รับปริญญาวิศวกรรมศาสตร์บัณฑิต สาขาวิศวกรรมไฟฟ้า จากจุฬาลงกรณ์มหาวิทยาลัย เมื่อปี 2528 และเข้าศึกษาต่อปริญญามหาบัณฑิต ที่ภาควิชาวิศวกรรมไฟฟ้า ในปีเดียวกัน