OPERATOR ALERTS

Sound Bell
Keyboard Lock/Unlock
* Illuminate/Extinguish LEDs (1)

(1) P8 LED Indication P8 LED Indication
1 L1 on 5 On Line on
2 L2 on 6 Local on
3 L3 on 7 Keyboard Locked on
4 L4 on 0 or none (all off)

SELF TEST, REPORTS

Self Test
Reset to Initial State
Invoke Self Test (1)

(1) P8 Meaning P8 Meaning
0 or 1 All Tests 5 SID Test (turn-around plug needed)
2 ROM Test 6 PIO Test (turn-around plug needed)
3 DSP Test 7 CRT Test (fills screen)
4 KBD Test 8 Repeat previous until error
9 NVM Test

Reports
S * Program Answerback
S * Program Identity Sequence

SET TO DESIGNATED

GRAPHIC SET

CHARACTER TABLE

DECIMAL CHARACTER TABLE

Model 16 Programming Guide

March 1984
**ERGONOMICS**

- Screen Brightness Level (Pn = 1 to 64)
- Smooth/Scroll Rate 6/12 tps
- Auto Repeat On/Off
- Auto Repeat Rate 30/15 tps
- Screen Background Dark/Light
- Right Margin Bell Column
- Cursor Blink/Standby
- Cursor Character Select
- Keyclick On/off

(For Pn values, see Decimal Character Table, over)

**DATA FLOW**

- Local/Remote Mode
- Character (Block Move/keyboard entry)
- Copy Serial Input to Peripheral
- Copy Interpreted On/Off
- Copy Transparent On/Off
- Enable/Disable Suspend/Resume - Serial I/O
- Enable/Disable Serial Busy-Ready
- Local Echo Serial Port On/Off
- Copy Peripheral Input to Serial
- Copy Transparent On/Off
- Enable/Disable Suspend/Resume - Peripheral
- Enable/Disable Peripheral Busy-Ready Detect
- Peripheral Busy-Ready Level Low/High
- Suspend/Resume

**MEMORY STRUCTURE**

- Set Top, Bottom Margins (Pn = line number)
- Set Left, Right Margins (Pn = column number)
- Left Margin Wrap On/Off
- Right Margin Wrap On/Off
- Page Stop/Auto Advance
- Set Logical Line Length to Pn Columns (255 max)
- Set Logical Page Length to Pn Lines
- Select Number of Pages

**APPLICATION CONTROLS**

- Monitor Mode/Normal
- New Line Mode/Line Feed
- 50/60 Hz Refresh Rate
- Screen Saver On/Off

**COMMUNICATIONS FORMAT**

- Set Baud Rates (1)
- Set Parity (2)
- Serial I/O Parity Check/None
- Peripheral I/O Parity Check/None
- Serial I/O Full/Half Duplex
- Peripheral I/O Full/Half Duplex

**BLOCK TRANSMENTS**

- Ready to Transmit
- Select Text for Transmission (1)
- Transmit Beginning to Cursor/Beginning to End
- Transmit Text (Serial I/O Port) (1)
- Transmit Text (Peripheral Port) (1)
- Start Select Area (SSA) / End Select Area (ESA)
- Serial Auto Suspend on Line/Normal
- Select End of Line Resume Character (3)
- Auto Suspend on End of Line/Normal
- Space Suppression On/Off Serial
- Space Suppression on End of Line/Normal
- Space Suppression On/Off Serial
- Space Substitution for Fields On/Off Serial
- Space Substitution for Fields On/Off Peripheral
- Transmit Guarded Fields/Without Guarded Fields
- Select Start of Transmission Identifier (2)
- Select Guarded Field Replacement Identifier (2)
- Select End of Line Terminator (2)
- Select End of Page Terminator (2)
- Select End of Transmission Terminator (2)

**TEXT PRESENTATION FORMAT**

- Start/End Protected Area
- Protect Mode On/Off
- Select Qualified Areas (1)
- Select Visual Attributes (2)

**CURSOR POSITIONING, TABS, TEXT MOVEMENT**

- Mouse Up or Down
- One Down or Pn Down
- One Right or Pn Right
- One Left or Pn Left
- Full Left (Cursor Return)
- Home
- Line Feed
- New Line
- Index
- Reverse Index
- Address Origin Window Absolute
- Direct Address (First Pn = line number
- 2nd Pn = column number)
- Save Cursor Attributes and Character Set in NVM
- Restore Cursor, Attribute Tag and Character Set

**COMPUTER SYSTEM**

- Tab Operations (Default: every eighth column
- Tab to Next Tab Stop
- Test Movement
- Clock

**CLOCK**

- Set Clock Time (1st Pn = hours, 0-23; 2nd Pn = minutes, 0-59; 3rd Pn = seconds, 0-59)
- Delay Next Operation (1st Pn = seconds, 0-59; 2nd Pn = tenths of seconds)

S indicates modifiable in selection menu
* indicates state saved in non-volatile memory
\* indicates default condition
### USA Standard Code for Information Interchange

<table>
<thead>
<tr>
<th>Control Function Definition</th>
<th>Control Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUL, MUL, or all zeros</td>
<td>ESC 0</td>
</tr>
<tr>
<td>LIM (2 bytes)</td>
<td>ESC 1</td>
</tr>
<tr>
<td>Erase with line feed</td>
<td>ESC 2</td>
</tr>
<tr>
<td>Move from area 1 to area 2</td>
<td>ESC 3</td>
</tr>
<tr>
<td>Start of text</td>
<td>ESC 4</td>
</tr>
<tr>
<td>Start of text</td>
<td>ESC 5</td>
</tr>
<tr>
<td>End of text</td>
<td>ESC 6</td>
</tr>
<tr>
<td>End of transmission</td>
<td>ESC 7</td>
</tr>
<tr>
<td>Horizontal tabulation</td>
<td>ESC 8</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertical tabulation</td>
<td>ESC 9</td>
</tr>
<tr>
<td>FF</td>
<td>ESC 10</td>
</tr>
<tr>
<td>Form feed</td>
<td>ESC 11</td>
</tr>
<tr>
<td>FF</td>
<td>ESC 12</td>
</tr>
<tr>
<td>Carriage return</td>
<td>ESC 13</td>
</tr>
<tr>
<td>Shift out</td>
<td>ESC 14</td>
</tr>
<tr>
<td>Shift in</td>
<td>ESC 15</td>
</tr>
<tr>
<td>Data link escape</td>
<td>DEL</td>
</tr>
</tbody>
</table>

### OPERATOR ALERTS

<table>
<thead>
<tr>
<th>Condition</th>
<th>LED Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>PBS</td>
<td>L1 on</td>
</tr>
<tr>
<td>PBS</td>
<td>L2 on</td>
</tr>
<tr>
<td>PBS</td>
<td>L3 on</td>
</tr>
<tr>
<td>PBS</td>
<td>L4 on</td>
</tr>
<tr>
<td>PBS</td>
<td>On Line on</td>
</tr>
<tr>
<td>PBS</td>
<td>Local on</td>
</tr>
<tr>
<td>PBS</td>
<td>Keyboard Locked on</td>
</tr>
<tr>
<td>PBS</td>
<td>Off or none</td>
</tr>
</tbody>
</table>

### SELF TEST, REPORTS

**Self Test**
- Reset to initial state
- Invoke self test (1)

<table>
<thead>
<tr>
<th>Test</th>
<th>Meaning (PBS)</th>
<th>Meaning (PBS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 or 1 All Tests</td>
<td>ESC 0</td>
<td>5 SIO Test (turn-around plug needed)</td>
</tr>
<tr>
<td>2 ROM Test</td>
<td>ESC 1</td>
<td>6 PIO Test (turn-around plug needed)</td>
</tr>
<tr>
<td>3 DSP Test</td>
<td>ESC 2</td>
<td>7 CRT Test (file screen)</td>
</tr>
<tr>
<td>4 KBD Test</td>
<td>ESC 3</td>
<td>8 Repeat previous until error</td>
</tr>
<tr>
<td>5 KBD Test</td>
<td>ESC 4</td>
<td>9 NVM Test</td>
</tr>
</tbody>
</table>

**Reports**
- Program Answerback: ESC P1 text ESC \ (f = Telentry)
- Program Identity Sequence: ESC P1 text ESC \ (f = ESC (? 1: 2))

### DECIMAL CHARACTER TABLE

#### Bottom Line Displays
- Start/End Bottom Line Message: ESC P M text ESC \ (f = Telentry)
- Enter/Exit Calculation Mode: ESC P M text ESC \ (f = Telentry)
- Exit Selection Mode (Blank Bottom Line): ESC space w
- Display Terminal Status On/Off: ESC P M text ESC \ (f = Telentry)
- Lock/Unlock Selection Feature: ESC P space v

### GRAPHIC CHARACTER SETS

#### Graphic Set Invocation
- G0 (CNTRL 0)
- G1 (CNTRL 1)
- G2 (CNTRL 2)

#### Character Sets
- **ASCII**
- **UK**
- **LINE DRAWING**
- **MOBAC**

---

The Shift In and Shift Out control codes invoke a new character set for all data following the control code. The single sequence (ESC: NT) invokes a new character set for only one character following the sequence.