KL8 Communication Interfaces
The KL8 is a single line asynchronous data control designed and packaged on one quad module which plugs directly into the Omnibus of the PDP8/E. The KL8 series provides complete facilities for interfacing teleprinters, alpha-numeric displays and other asynchronous terminals to the PDP8/E. The KL8 may also be used to communicate to PDP8/E's or other computers. The KL8 is available in various baud rates along with a double buffered version and a modem control.

KL8-E Specifications

Environment
Temperature: 0° to 55° C (operating)
Humidity: 10% to 90% non-condensing (operating)
Type of transmission—asynchronous
Type of reception—asynchronous
Number of start bits—one (1)
Number of data bits—eight (8)
Number of stop bits—1 or 2 (jumper selectable on module)

KL8-F Specifications (Double Buffered Version)

Environment
Temperature: 0° to 55° C (operating)
Humidity: 10% to 90% non-condensing (operating)
Type of transmission—asynchronous
Type of reception—asynchronous
Number of start bits—1
Number of data bits—5, 6, 7, or 8 bits jumper selectable
Number of stop bits—1 or 2 jumper selectable

Parity generation and checking is controlled by inserting jumpers, i.e. odd/even parity (5, 6, 7 or 8 bits), parity/no parity.

Interface Cable
Interface cable supplied is 25 feet.

Programming
The KL8-F is program compatible with the KL8-E instructions except where noted. The instruction set for the keyboard (input) is as follows:

<table>
<thead>
<tr>
<th>Mnemonic Octal</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>KCC</td>
<td>6XX2 Clear Keyboard Flag (Set reader run*)</td>
</tr>
<tr>
<td>KRS</td>
<td>6XX4 Read Keyboard Buffer (Static)</td>
</tr>
<tr>
<td>KIE</td>
<td>6XX5 Set/Clear Interrupt Enable</td>
</tr>
<tr>
<td>KSE</td>
<td>6XX5 Set/Clear Status Word Enable (KL8-F only)</td>
</tr>
<tr>
<td>KRB</td>
<td>6XX6 Read Keyboard Buffer (Dynamic) Clear keyboard flag (set reader run*)</td>
</tr>
</tbody>
</table>

*KL8-E only

The instruction set for the teleprinter (output) is as follows:

<table>
<thead>
<tr>
<th>Mnemonic Octal</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFL</td>
<td>6XX0 Set Teleprinter Flag</td>
</tr>
<tr>
<td>TSF</td>
<td>6XX1 Skip on Teleprinter Flag</td>
</tr>
<tr>
<td>TCF</td>
<td>6XX2 Clear Teleprinter Flag</td>
</tr>
<tr>
<td>TPC</td>
<td>6XX3 Load Teleprinter and Print</td>
</tr>
<tr>
<td>TPI</td>
<td>6XX5 Skip on Teleprinter or Keyboard Flag if Interrupt Enabled is set</td>
</tr>
<tr>
<td>TLS</td>
<td>6XX6 Load Teleprinter Sequence</td>
</tr>
<tr>
<td>TBK</td>
<td>6XX7 Generate Break (KL8-F only)</td>
</tr>
</tbody>
</table>

KL8-F only
Read Status to AC0-3 if status word is Enabled.
(and clear status word erable—KL8-F).

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Error</td>
<td>AC0</td>
</tr>
<tr>
<td>Parity Error</td>
<td>AC1</td>
</tr>
<tr>
<td>Framing Error</td>
<td>AC2</td>
</tr>
<tr>
<td>Overrun Error</td>
<td>AC3</td>
</tr>
</tbody>
</table>
KL8-E Designations
KL8-E  110 Baud send/110 Baud receive
       20 ma current loop
KL8-EA 110 Baud send/110 Baud receive
       EIA Data Leads
KL8-EB 150 Baud Send/150 Baud receive
       EIA Data Leads
KL8-EC 300 Baud send/300 Baud receive
       EIA Data Leads
KL8-ED 600 Baud send/600 Baud receive
       EIA Data Leads
KL8-EE 1200 Baud send/1200 Baud receive
       EIA Data Leads
KL8-EF 1200 Baud send/150 Baud receive
       EIA Data Leads
KL8-EG 2400 Baud send/150 Baud receive
       EIA Data Leads

KL8-F Designations
KL8-FA  110 Baud send/110 Baud receive
       EIA Data Leads
KL8-FH  134.5 Baud send/134.5 Baud receive
       EIA Data Leads
KL8-FB  150 Baud send/150 Baud receive
       EIA Data Leads
KL8-FC  300 Baud send/300 Baud receive
       EIA Data Leads
KL8-FD  600 Baud send/600 Baud receive
       EIA Data Leads
KL8-FE  1200 Baud send/1200 Baud receive
       EIA Data Leads
KL8-FF  1200 Baud send/150 Baud receive
       EIA Data Leads

KL8-FG  2400 Baud send/150 Baud receive
       EIA Data Leads
KL8-FJ  1800 Baud send/1800 Baud receive
       EIA Data Leads
KL8-FK  2400 Baud send/2400 Baud receive
       EIA Data Leads

KL8-M
The KL8-M adds modem control capabilities to the KL8-E
and KL8-F EIA type interfaces. The KL8-M provides con-
trol for “Data Terminal Ready” and “Request to Send,”
and detects the status of “Carrier Detect,” “Clear to
Send,” and “Ring Detect.” It also allows for secondary
channel transmit and receive on a bit basis, program
controlled. All of the above features conform to EIA
RS232C and CCITT specifications. The KL8-M will ac-
commodate Bell 103A/F/E/G/H, 202 C/D and 811B or
equivalent modems.

Programming
Summary of KL8-M Instructions and their functions:

<table>
<thead>
<tr>
<th>Mnemonic Octal</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>6XX0</td>
<td>MCCI</td>
</tr>
<tr>
<td>6XX1</td>
<td>MCLR</td>
</tr>
<tr>
<td>6XX2</td>
<td>MCST</td>
</tr>
<tr>
<td>6XX3</td>
<td>MCRF</td>
</tr>
<tr>
<td>6XX4</td>
<td>MCSS</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>6XX5</td>
<td>MCS</td>
</tr>
<tr>
<td>6XX6</td>
<td>MCSR</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>6XX7</td>
<td>MCRS</td>
</tr>
</tbody>
</table>