APPLICATION NOTE 347

Converting the DS2151/DS2153 Demo Kits

May 15, 2001

Abstract: The DS2151DK and DS2153DK are ordered and shipped for either T1 or E1 operation. However, the kits are easily converted to operate on the other mode. This application note describes how to convert the demo kits to either T1 or E1 operation.

The DS2151DK & DS2153DK are ordered and shipped for either T1 or E1 operation. However, the kits are easily converted to the other mode.

To convert from DS2151DK to DS2153DK: T1→
1. Place DS2153 in location marked U1.
2. Place 2.048 MHz oscillator in location marked X3.
3. Place 8.192 MHz crystal in location marked X1.
4. Remove and replace Rr.
5. Place Rt as required, see note 3 below.

To convert from DS2153DK to DS2151DK: E1→
1. Place DS2151 in location marked U1.
2. Place 1.544 MHz oscillator in location marked X3.
3. Place 6.176 MHz crystal in location marked X1.
4. Remove and replace Rr.
5. Place Rt as required, note 3 below.

The table below details the required components.

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
<th>T1</th>
<th>E1</th>
</tr>
</thead>
<tbody>
<tr>
<td>U2</td>
<td>SCT</td>
<td>DS2152</td>
<td>DS2154</td>
</tr>
<tr>
<td>X1</td>
<td>PULLABLE CRYSTAL¹</td>
<td>6.176 MHz</td>
<td>8.192 MHz</td>
</tr>
<tr>
<td>X3</td>
<td>OSCILLATOR¹</td>
<td>1.544 MHz</td>
<td>2.048 MHz</td>
</tr>
<tr>
<td>R5 &amp; R6</td>
<td>Rt</td>
<td>0Ω²,³</td>
<td>8.2Ω²</td>
</tr>
<tr>
<td>R7 &amp; R8</td>
<td>Rr</td>
<td>50Ω</td>
<td>37.5Ω for Ohm Termination</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>60Ω for 120 Ohm Termination</td>
</tr>
</tbody>
</table>

Notes:
   Recommended crystals: 6.176 MHz SRX5310(L) & 8.192 MHz SRX5469(L)

Saronix
151 Laura Lane
Palo Alto, CA 94303
Phone: (415) 856-6900
Fax: (415) 856-4732
http://www.saronix.com

2. The DS2151DK and DS2153DK are both shipped with a 1:1.15 transformer (PE-65388) in the
   transmit path. Some of the configurations in the data sheets specify a 1:1.36 transformer, PE-
   64937 is a 1:1.36 transformer available from Pulse Engineering.

Pulse Engineering
P.O. Box 12236
San Diego, CA 92112
Phone: (619) 674-8100
Fax: (619) 674-8262
http://www.pulseeng.com

3. The DS2151DK and DS2153DK are both shipped with Rt = 0Ω, R5 & R6 are shorted in the PCB.
   Some of the configurations in the data sheets specify non zero resistors for Rt. In order to place
   resistors, Rt ≠ 0, the traces must be cut. Carefully cut the traces connecting the through holes for
   R5 & R6 with an X-acto knife, and solder the resistors in place.

More Information
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