



Application Note 347

Converting the DS2151/DS2153 demo kits

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→E1

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→T1

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, see note 3 below.

The table below details the required components.

COMPONENT	DESCRIPTION	T1	E1
U2	SCT	DS2152	DS2154
X1	PULLABLE CRYSTAL ¹	6.176 MHz	8.192 MHz
X3	OSCILLATOR ¹	1.544 MHz	2.048 MHz
R5 & R6	Rt	$0\Omega^{2,3}$	$8.2\Omega^2$
R7 & R8	Rr	50 Ω	37.5 Ω for Ohm Termination 60 Ω for 120 Ohm Termination

NOTES:

1. Recommended oscillators: NTH039A-1.544000 & NTH039A-2.04800.
Recommended crystals: 6.176MHz SRX5310(L) & 8.192MHz SRX5469(L)
Saronix <http://www.saronix.com>
151 Laura Lane Phone: (415) 856-6900
Palo Alto, CA 94303 Fax: (415) 856-4732
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 <http://www.pulseeng.com>
P.O. Box 12236 Phone (619) 674-8100
San Diego, CA 92112 Fax (619) 674-8262

3. The DS2151DK and DS2153DK are both shipped with $R_t = 0\Omega$, R5 & R6 are shorted in the PCB. Some of the configurations in the data sheets specify non zero resistors for R_t . In order to place resistors, $R_t \neq 0$, 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.