



# Instructions for ICS525 OSCAR™ Demo Board

## ICS525 Demo Board

The ICS525 OSCAR™ demo board provides a way to quickly evaluate the performance of the ICS525 family of programmable oscillator replacement clock generators. The connector on the bottom of the board fits a standard oscillator footprint, or can be easily modified to fit a half-size footprint.

## Frequency Selection

The output frequency can be changed by setting the dip switches according to the instructions in the datasheet. Turning the switch ON connects the input to GROUND. Turning the switch OFF connects the input to VDD as all inputs have on-chip pull-ups. A calculation program which determines input settings can be found at:

<http://www.icst.com/calculators/ics525inputForm.html>

## Output Termination

Resistor R1 is a 33Ω series termination resistor on the pin 21 clock output. It can be moved to the R2 location to evaluate the clock output on pin 22.

## Crystal Tuning

The ICS525 family has on-chip crystal load capacitors which will provide accurate frequency output with 13 pF parallel resonant crystals. Crystals with any load capacitance value, or even series resonant crystals, will operate. However, the frequency will be off by up to 500 ppm (0.05%). To get an accurate frequency output by adjusting the board to a crystal with a different value of load capacitance, use the following formula

$$C1, C2 = 2(C_L (\text{crystal}) - 13)$$

The 10 pF capacitors on the board adjust the load capacitance of the part so that the frequency is correct when used with an 18 pF parallel resonant crystal.

