

QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 1333A

12-BIT UNBUFFERED SPI DAC WITH INTEGRATED REFERENCE

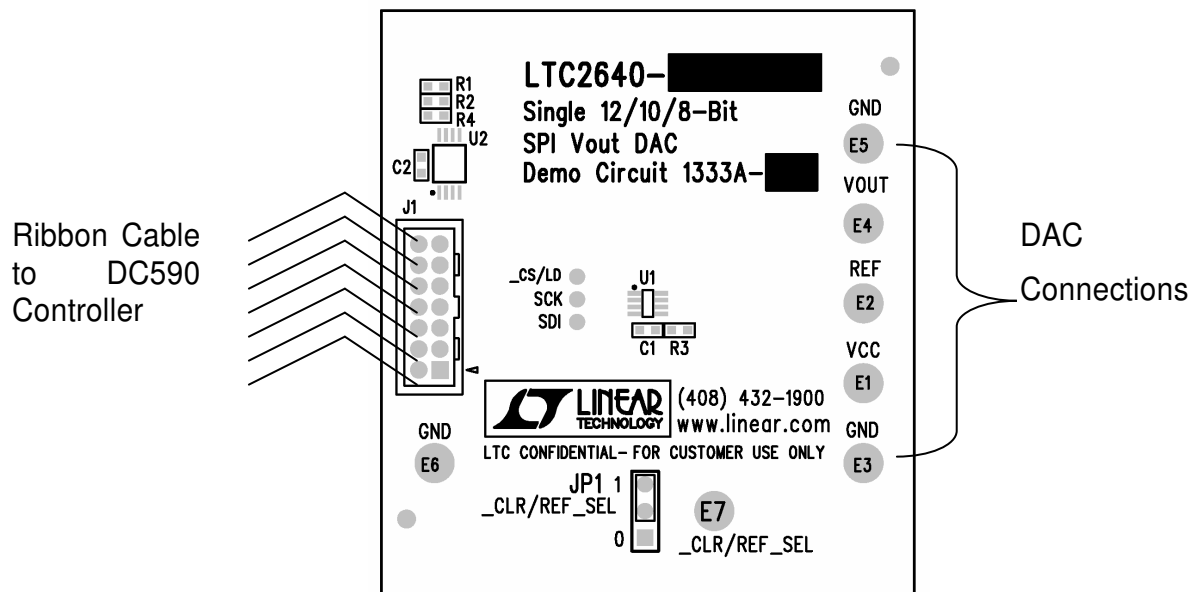
LTC2640

DESCRIPTION

Demonstration circuit 1333 features the LTC2640, a 12 bit SPI DAC. This device establishes a new benchmark for size and integration of 12 bit DACs and onboard reference. DC1333A may be connected directly to the target application's analog signals while using the DC590 USB Serial Controller board and sup-

plied software to measure performance. After evaluating with Linear Technology's software, the digital signals can be connected to the end application's processor / controller for development of the serial interface. Design files for this circuit board are available. **Call the LTC factory.**

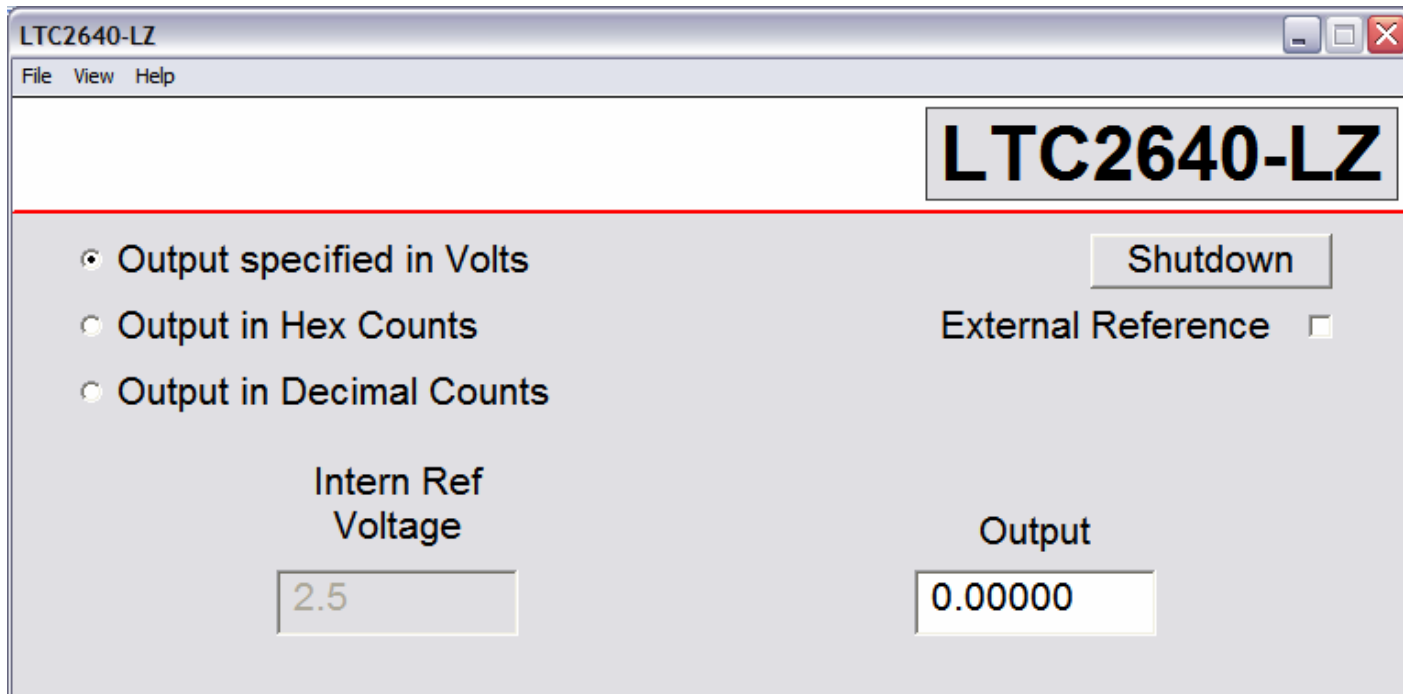
Figure 1. Connection Diagram



QUICK START PROCEDURE

Connect DC1333A to a DC590 USB Serial Controller using the supplied 14 conductor ribbon cable. Connect DC590 to host PC with a standard USB A/B cable. Run the evaluation software supplied with DC590 or downloaded from www.linear.com. The correct program will be loaded automatically. Options are available

to display the DAC output in Voltage, hex code, or decimal count. Additionally, the reference voltage may be changed to reflect an actual measured value such that the output voltage matches the theoretical output voltage. The reference mode may be changed from internal reference to external reference.



Features may be periodically added to the software, see the software's help menu for the latest information.

HARDWARE SET-UP

JUMPERS

`_CLR/REF_SEL` – On the B and D versions of the demo board, this is not populated. On the A and C versions of the demo board this is used to determine the reference input.

ANALOG CONNECTIONS

DAC outputs are provided on the row of turret posts at the edge of the board.

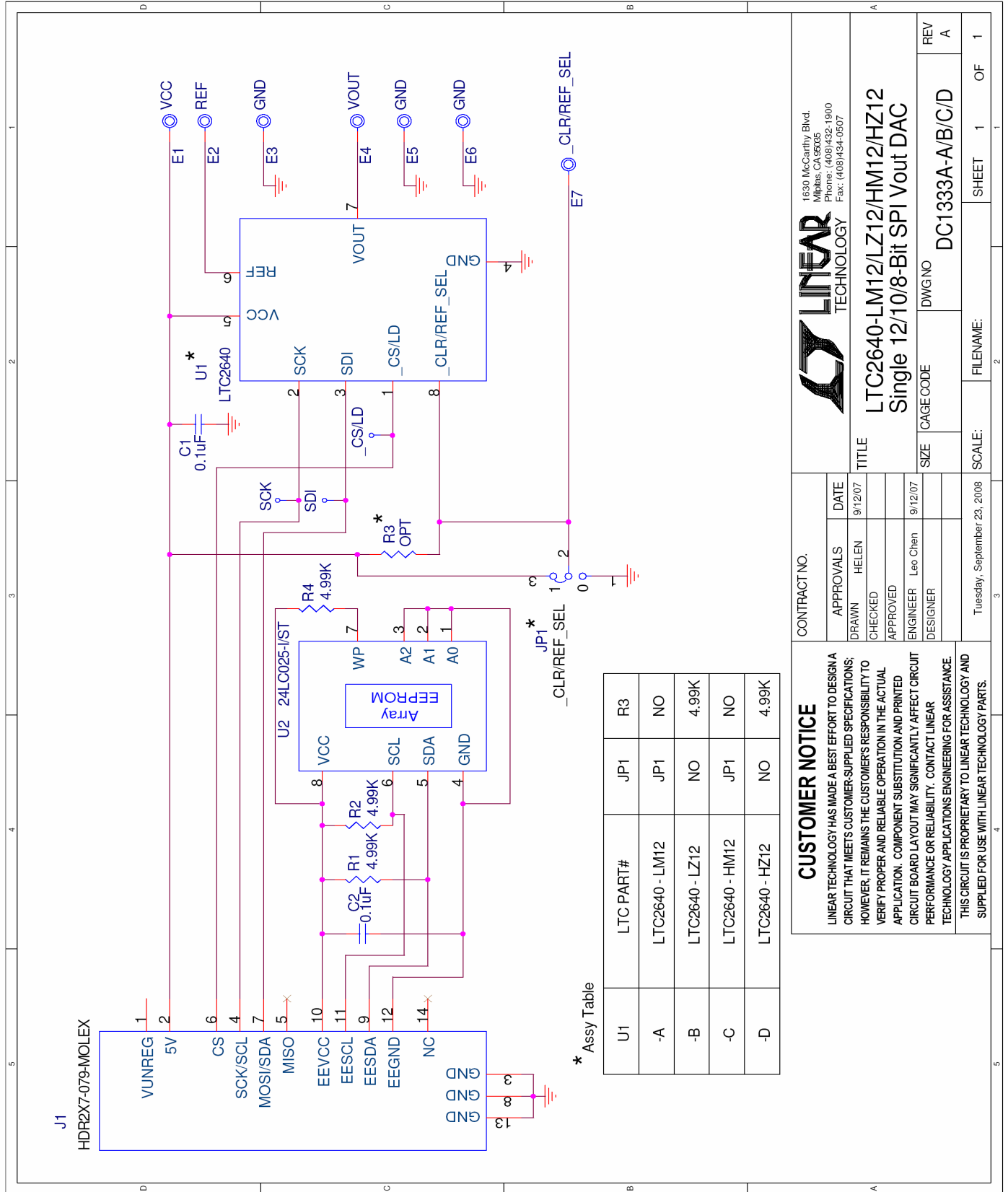
GROUNDING AND POWER CONNECTIONS

Power (V_{cc}) – Normally DC1074 is powered by the DC590 controller. V_{cc} can be supplied to the 5V turret, however the power supply on DC590 must be disabled! Refer to DC590 Quick Start Guide for more details on this mode of operation.

Grounding – Three ground posts are provided.

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CONTRACT NO.

APPROVALS

HELEN

DATE: 9/12/07

DRAWN

CHECKED

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LINEAR TECHNOLOGY

TITLE

LTC2640-LM12/LZ12/HM12/HZ12
Single 12/10/8-Bit SPI Vout DAC

SCALE: 1 OF 1

FILENAME: DC1333A-A/B/C/D

REV

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CUSTOMER NOTICE

LINEAR TECHNOLOGY HAS MADE A BEST EFFORT TO DESIGN A CIRCUIT THAT MEETS CUSTOMER-SUPPLIED SPECIFICATIONS; HOWEVER, IT REMAINS THE CUSTOMER'S RESPONSIBILITY TO VERIFY PROPER AND RELIABLE OPERATION IN THE ACTUAL APPLICATION. COMPONENT SUBSTITUTION AND PRINTED CIRCUIT BOARD LAYOUT MAY SIGNIFICANTLY AFFECT CIRCUIT PERFORMANCE OR RELIABILITY. CONTACT LINEAR TECHNOLOGY APPLICATIONS ENGINEERING FOR ASSISTANCE. THIS CIRCUIT IS PROPRIETARY TO LINEAR TECHNOLOGY AND SUPPLIED FOR USE WITH LINEAR TECHNOLOGY PARTS.