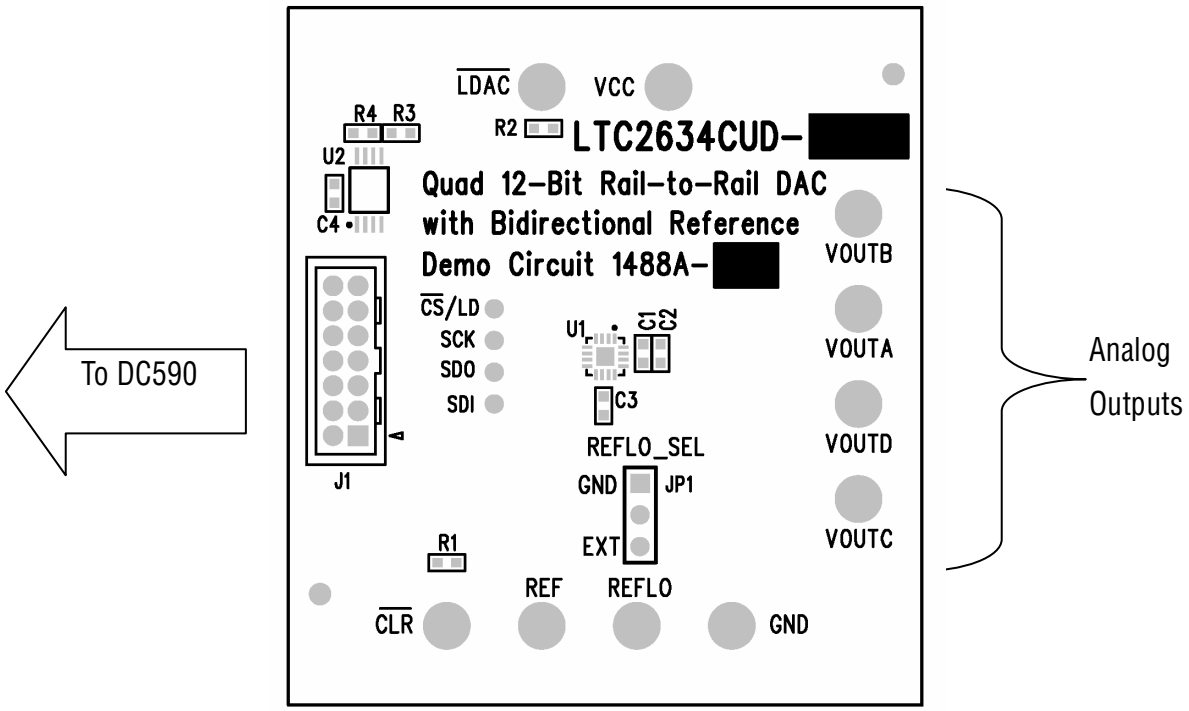
DESCRIPTION

Demonstration circuit DC1488 features the LTC2634 Octal 12-bit DAC. This device has an integrated, high accuracy, low-drift reference. It has a rail-to-rail output buffer and is guaranteed monotonic. This DAC communicates through the simple SPI/MICROWIRE™ compatible interface.

Design files for this circuit board are available. Call the LTC factory.

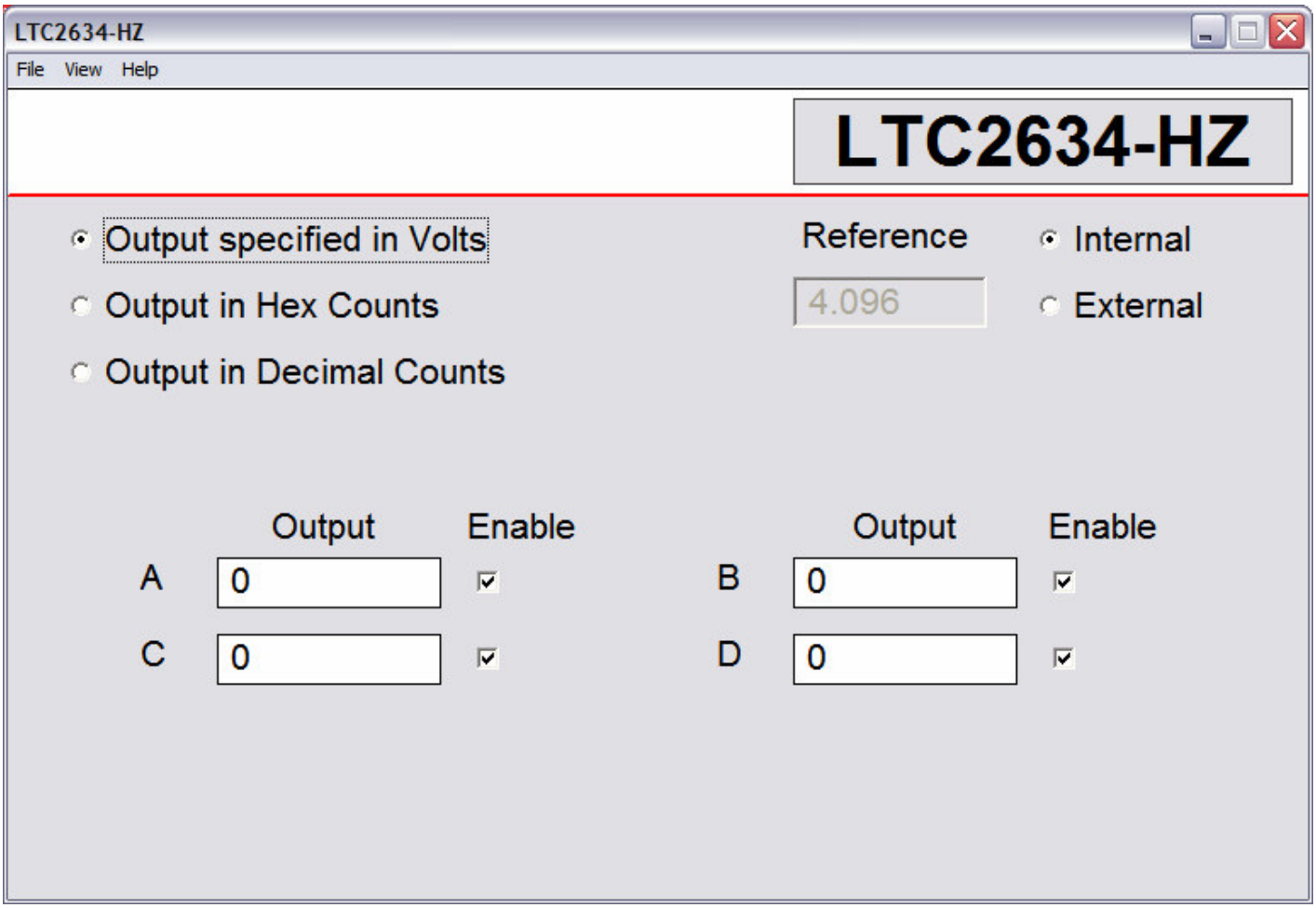


Demoboard Type	LTC2634 Variation	Power Up	Full Scale
A	LZ	Zero	2.5V
B	LMI	Midscale	2.5V
C	HZ	Zero	4.096V
D	HMI	Midscale	4.096

QUICK START PROCEDURE

Connect DC1488 to a DC590 USB serial controller using the supplied 14 conductor ribbon cable. Connect DC590 to a host PC with a standard USB A/B cable. Run the evaluation software supplied with DC590 or download it from www.linear.com. The correct control panel will be loaded automatically. Click the COLLECT button to begin outputting codes to the DACs and reading back the resulting output voltage for each DAC.

Complete software documentation is available from the Help menu item, as features may be added periodically.



HARDWARE SET-UP

ANALOG CONNECTIONS

DAC outputs – The four DAC outputs from the LTC2634 are brought out to turrets labeled VOUTA through VOUTD. These may be connected to external instruments or other circuitry.

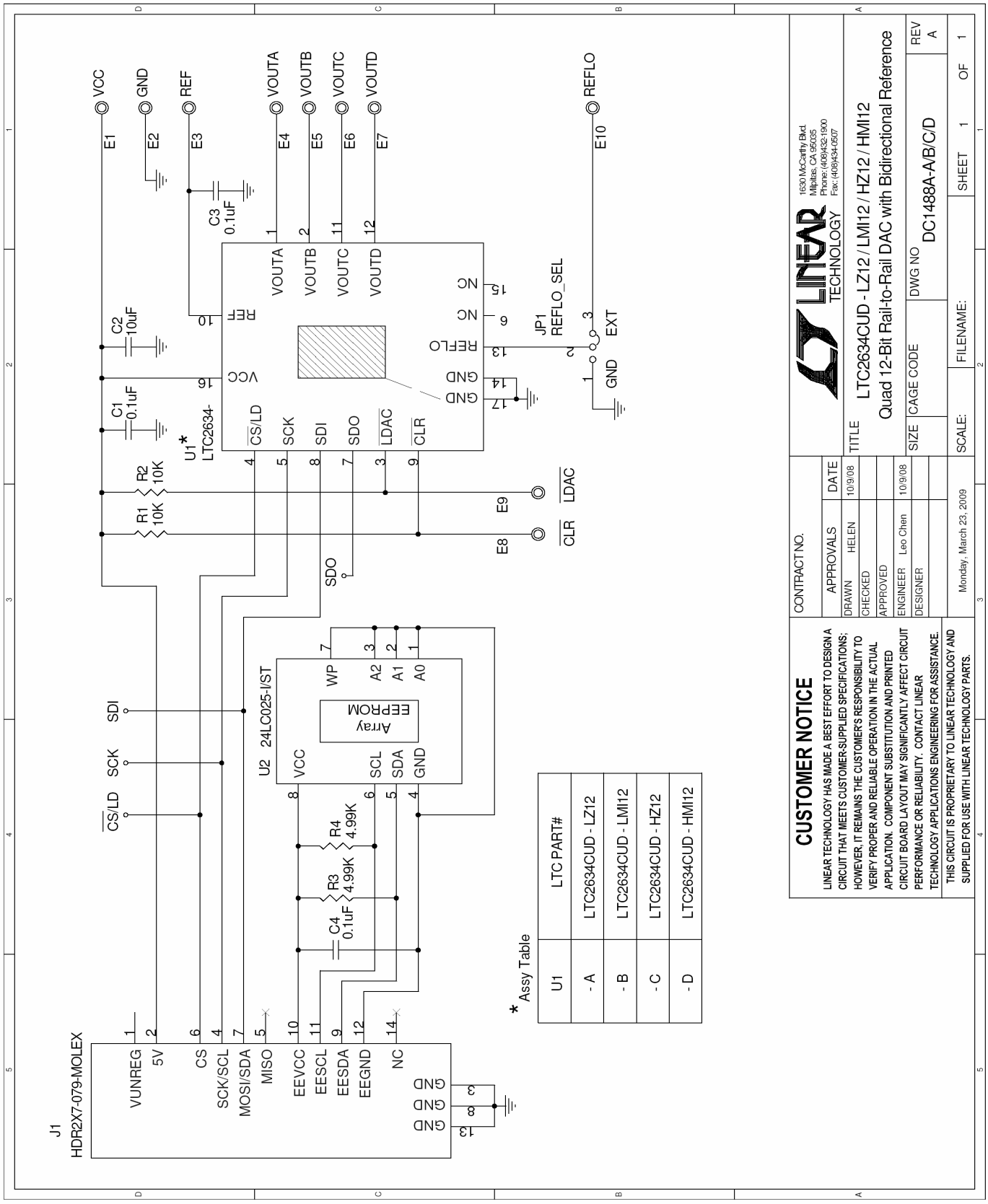
NOTE: DAC outputs are not in alphabetical order on the circuit board.

Vref – The Ref turret is connected directly to the reference terminals of the LTC2634 When the integrated reference is being used, the reference voltage may be monitored at this point. An external reference may also be applied to this turret after changing the setting in the QuickEval software.

GROUNDING AND POWER CONNECTIONS

Power (Vcc) – Normally DC1488 is powered by the DC590 controller. Vcc can be supplied to this 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 – Ground turrets as well as 2 grounding strips are provided.


VCC
GND
REF
VOUTA
VOUTB
VOUTC
VOUTD
REFLO
E1
E2
E3
E4
E5
E6
E7
E10
C1 0.1uF
C2 10uF
C3 0.1uF
U1*
LTC2634-
CS/LD
SCK
SDI
SDO
LDAC
CLR
NC
JP1
REFLO_SEL
EXT
R1 10K
R2 10K
E8
E9
U2 24LC025-I/ST
Array
EEPROM
WP
A2
A1
A0
VCC
SCL
SDA
GND
R3 4.99K
R4 4.99K
C4 0.1uF
J1
HDR2X7-079-MOLEX
VUNREG
5V
CS
SCK/SCL
MOSI/SDA
MISO
EEVCC
EESCL
EEDSA
EEGND
NC
GND
* Assy Table
U1 | LTC PART#
- A | LTC2634CUD - LZ12
- B | LTC2634CUD - LMI12
- C | LTC2634CUD - HZ12
- D | LTC2634CUD - HMI12
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.
CONTRACT NO.
APPROVALS
DRAWN HELEN 10/9/08
CHECKED
APPROVED
ENGINEER Leo Chen 10/9/08
DESIGNER
DATE
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1630 McCarthy Blvd.
Milpitas, CA 95035
Phone: (408)432-1900
Fax: (408)434-0507
TITLE
LTC2634CUD - LZ12 / LCI12 / HZ12 / HMI12
Quad 12-Bit Rail-to-Rail DAC with Bidirectional Reference
SIZE
CAGE CODE
DWG NO
DC1488A-A/B/C/D
REV A
SCALE:
FILENAME:
SHEET 1 OF 1
Monday, March 23, 2009