

LTC2754A|UKG-16

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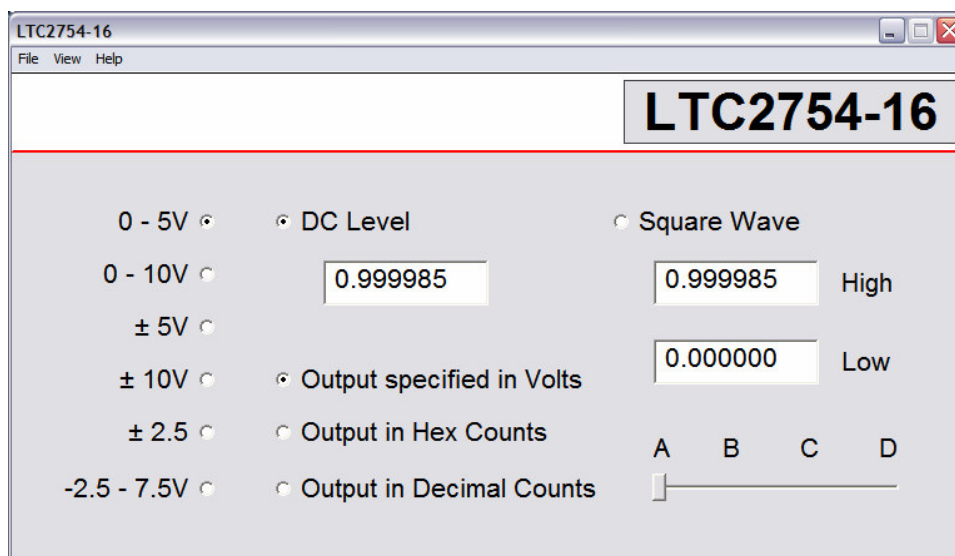
QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 1546A 16-BIT QUAD SERIAL PRECISION SOFTSPAN IOUT DAC

QUICK START PROCEDURE

Connect a clean +/-15V power supply to the turret posts at the top of the DC1546A board. Connect J1 to a DC590A USB serial controller using the supplied 14 conductor ribbon cable. Connect DC590A to a host PC with a standard USB A/B cable. Run the evaluation software supplied with DC590A or download it from www.linear.com/software. The correct control panel will be loaded automatically. The software automati-

cally sets the LTC2754AIUKG-16 outputs according to the entries in the control panel. A square wave option is available to test settling time. MSPAN jumper should be low if software span control is desired.

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



HARDWARE SET-UP

JUMPERS

MSPAN – Manual Span Control Pin. MSPAN is used to configure the LTC2754AIUIK-16 for operation in a single, fixed output range. If MSPAN is high it will be configured for single span use. If MSPAN is low it will be set through the Quick Eval Software. Default position is 0 (low).

S0,S1,S2 – Used to set the fixed output range if MSPAN is high. Default is all jumpers removed, allowing software span control.

S2	S1	S0	SPAN
0	0	0	Unipolar 0V to 5V
0	0	1	Unipolar 0V to 10V
0	1	0	Bipolar -5V to 5V
0	1	1	Bipolar -10V to 10V
1	0	0	Bipolar -2.5V to 2.5V
1	0	1	Bipolar -2.5V to 7.5V

Codes not shown are reserved and should not be used.

VREF – Voltage reference selection for the DAC, either 5V for the onboard LT1236 reference or EXT if an external reference source is connected to the VREF turret post.

VOSA,VOSB, VOSC,VOSD – offset adjustment selection for DACA, DACB, DACC, DACD. If no offset adjustment is required, select GND. Selecting EXT connects the offset pin to the turret allowing external adjustment of offset.

REFADJA,REFADJB,REFADJC,REFADJD – Gain adjustment selection for each associated DAC. If no gain adjustment is required, select GND. Selecting EXT connects the gain pin to the turret allowing external adjustment of gain.

VCC – Select source for 5V Vcc supply. Set to 5V for supply by onboard LT1236 reference (recommended). Set to REG to be supplied by regulated supply from DC590A Controller and remove the jumper to supply externally.

ANALOG CONNECTIONS (TURRET POSTS)

OUTA, OUTB, OUTC,OUTD – DAC voltage outputs.

VREF – DAC Reference voltage. If the onboard LT1236 references are selected, the voltage may be measured at these points. If a remote reference is selected, then an external reference must be applied to these points.

VOSA,VOSB, VOSC,VOSD – DAC Offset Adjust input, use only if VOSA/VOSB/VOSC/VOSD jumper set to EXT. Nominal input range is $\pm 5V$.

REFADJA,REFADJB,REFADJC,REFADJD– Gain adjust input for each associated DAC. This control input can be used to null gain error or to compensate for reference errors. Only used if associated REFADJ jumper is set to Ext.

DIGITAL CONNECTIONS (TURRET POSTS)

CLR – Asynchronous Clear Pin. Pulled high through a 10k on the board but can be driven low to clear all DAC registers.

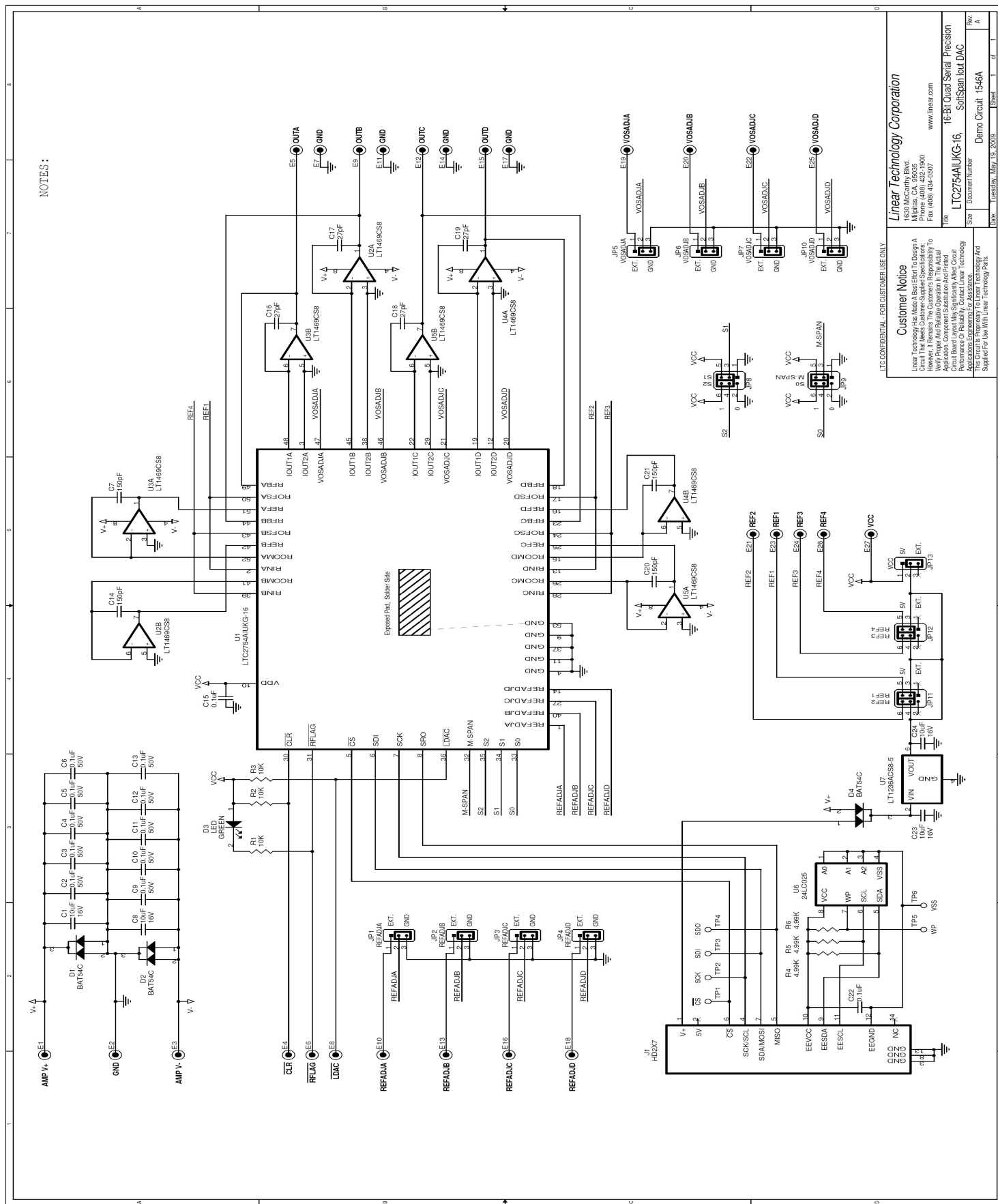
RFLAG – Reset Flag pin. Active low output.

LDAC – Asynchronous DAC load input. Pulled high through a 10k on the board but can be driven low to update all DAC registers

POWER AND GROUND CONNECTIONS

Analog Power – The +15V, -15V, and GND turret posts are the analog supplies for the internal DAC amplifiers. These should be connected to a well regulated, low noise power supply.

Vcc – Connection to Vcc. See schematic and description for VCC jumper.



Customer Notice
Linear Technology Has Made A Best Effort To Design A Circuit Which Meets The Specifications Set Forth In This Data Sheet. However, It Represents The Customer's Responsibility To Verify Proper And Reliable Operation In The Actual Application. Component Substitution And Printed Circuit Board Assembly Are Not Recommended Without The Assistance Of A Linear Technology Applications Engineer For Assistance.
This Circuit Is Proprietary To Linear Technology And Supplied To You With Linear Technology Patents.

Linear Technology Corporation
1630 McCarthy Blvd.
Folsom, CA 95635
Tel: 916/343-4500
Fax: 916/343-4527
www.linear.com

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