

ETERNA® SERIAL PROGRAMMER

Content:

- 1. Title Page
- 2. Board Power & Visual Indicators
- 3. USB Interface
- 4. Target Connectors, Translators and Power
- 5. PLD & Crystal Calibration

Notes:

- 1. Assembly Options:
  - 1.a) Includes PLD (all bypass options are NoStuff)
  - 1.b) VSupply HW auto select (jumper header is Nostuff)
  - 1.c) HW target and voltage sensing (no USB input or ctrl)

2. Associated Documents



PCB FAB  
600-0186 REV3



BOM  
700-0186 REV8



ASY DWG  
705-0186 REV3



WI  
003-0059 REV5

Revision History:

Rev	Description	ECO	Author
01	Initial release Programmer design based on Huron, featuring: <ul style="list-style-type: none"><li>- 22/26 pin mote support</li><li>- SPI and CLI 50mils header for stand-alone castellated mote</li><li>- Calibration reference timing signal</li></ul>	1110	CN, RMP
02	Bring Up Update - Fixed target power option: USB powered	1132	CN, RMP
03	Automatic Target Power Selection	1136	CN, RMP
04	Respin new PCB to include updates	1139	CN, RMP
05	hardwire VSUPPLY to VTARGET fix for HW-178	1155	CN, RMP
06	Limit VSUPPLY inrush fix for HW-180	1175	CN, RMP
07	Add VSUPPLY connection to VTARGET Option to disable VSUPPLY breaker VSUPPLY resetable fuse Target VSUPPLY headers	1198	CN, RMP
08	Change R112 to 2 ohms	1294	RMP




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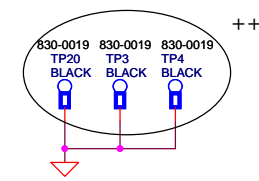
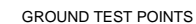
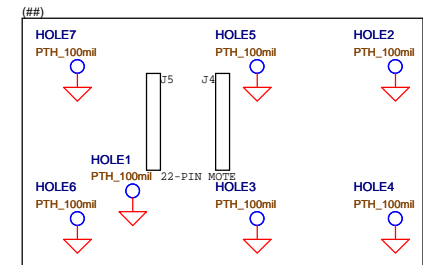
CUSTOMER NOTICE

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 IS SUPPLIED FOR USE WITH LINEAR TECHNOLOGY PARTS.

CONTRACT NO.		 <b>A Linear Technology Company</b> 1630 McCarthy Blvd. Phone: (408)432-1900 Milpitas, CA 95035 Fax: (408)434-0507	
APPROVALS			
DRAWN:			
CHECKED:			
APPROVED:			
ENGINEER:		TITLE: DC9010A	
DESIGNER:		PCA SCH, SERIAL PROGRAMMER BOARD, ETERNA	
SIZE A		DWG NO. 710-0186	
DATE: Monday, August 26, 2013		SHEET 1 OF	

## BOARD AND TARGET POWER



**Silk**

**Layout**

(+) ANNOTATE SILK WITH:  
"POWER", "VTARGET", & "USB" ;  
GROUP AND ALIGN DIODES

(++) PLACE TP  
THROUGHOUT BOARD

(+++)  
ALIGN WITH  
BOARD CENTERLINE



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## APPROVALS

DRAWN:

**CHECKED:**

**APPROVED**

ENGINEER

E. DESIGNER



dust  
networks™

**A Linear Technology Company**

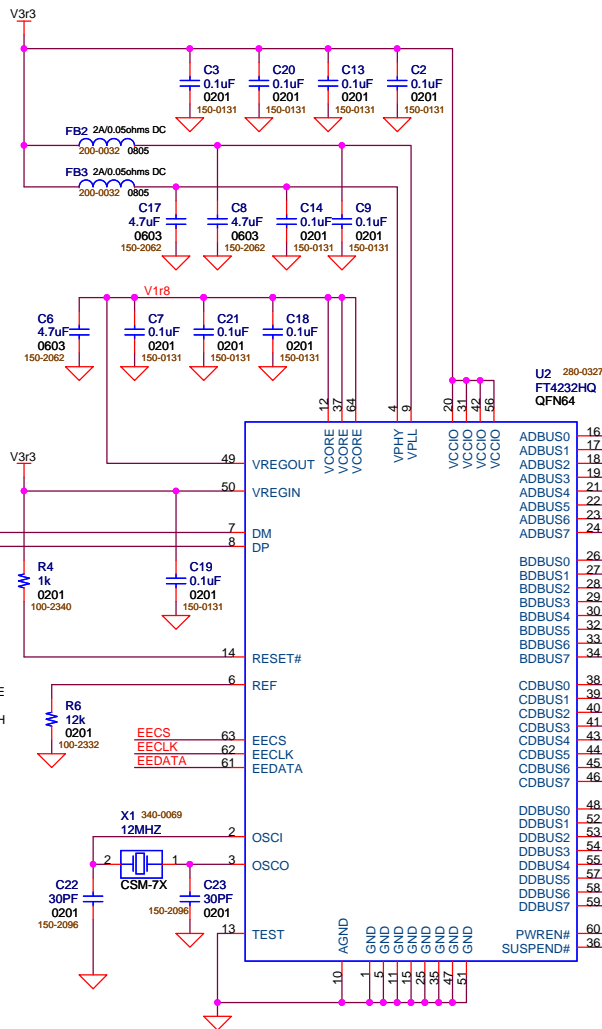
**1630 McCarthy Blvd. Phone: (408)432-1900**  
**Milpitas, CA 95035 Fax: (408)434-0507**

TITLE:	DC9010A
	PCA SCH, SERIAL PROGRAMMER BOARD, ETERNA

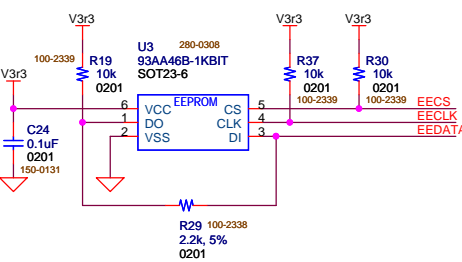
SIZE A	DWG NO. <b>605-0186</b>	RE C
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DATE: Monday, August 26, 2013	SHEET 2 OF
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# USB INTERFACE

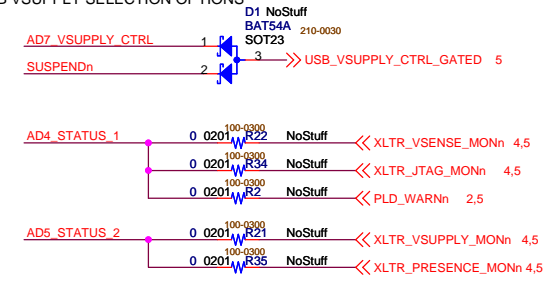


## CONFIGURATION EEPROM

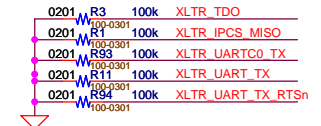


AD7\_VSUPPLY\_CTRL and SUSPENDn nets are not connected, no rework planned

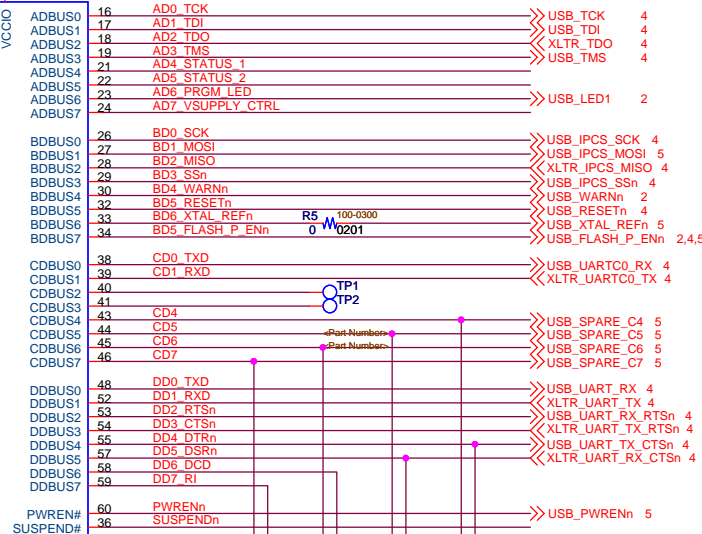
## USB SUPPLY SELECTION OPTIONS



PULL FOR XLTR POWER OFF STATE (HIZ OUTPUTS)



(+) ALIGN WITH BOARD CENTERLINE  
(++) ROUTE AS PAIRS, 50 OHM EACH



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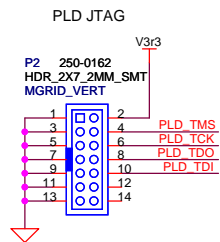
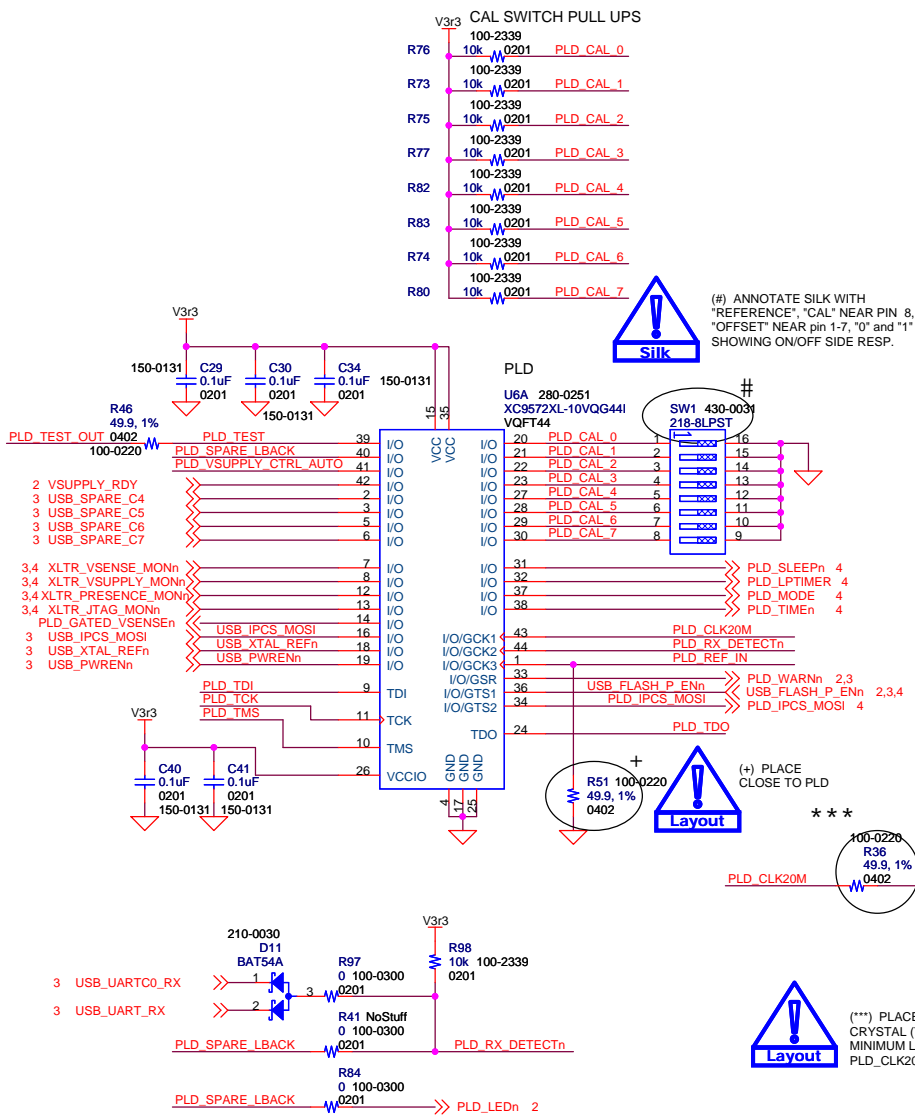
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DESIGNER:	

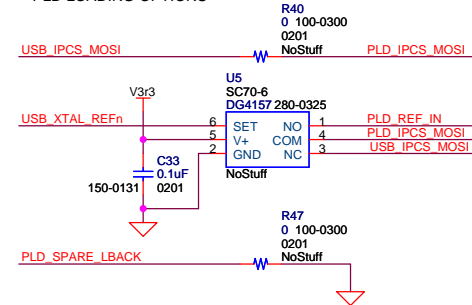
		<b>A Linear Technology Company</b> 1630 McCarthy Blvd. Milpitas, CA 95035		Phone: (408)432-1900 Fax: (408)434-0507
TITLE: DC9010A PCA SCH, SERIAL PROGRAMMER BOARD, ETERNA		SIZE: A DWG NO.: 605-0186		REV: 08
DATE: Monday, August 26, 2013		SHEET 3 OF 5		



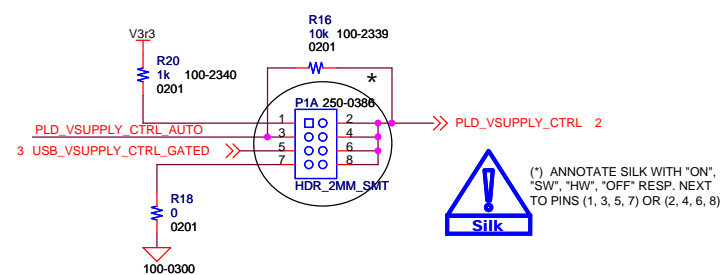
# PLD, TARGET POWER SELECTION & TIMING CALIBRATION REFERENCE



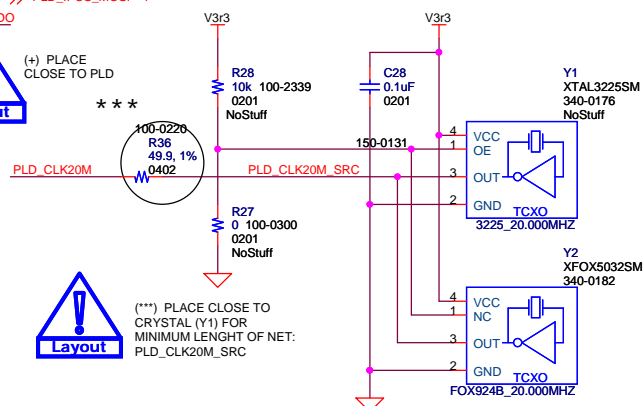
## PLD LOADING OPTIONS



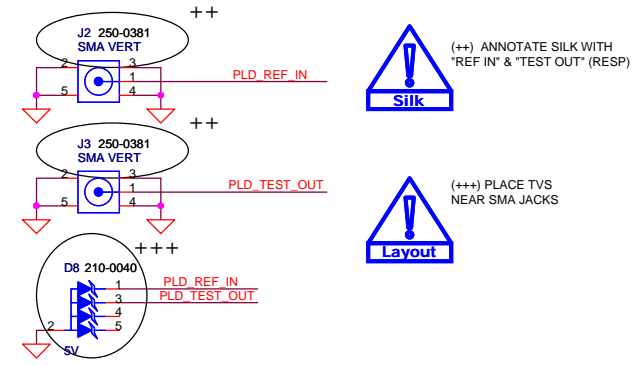
## TARGET POWER SELECTION



## PLD CLOCK



## XTAL CAL REFERENCE



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PCA SCH, SERIAL PROGRAMMER BOARD, ETERNA

SIZE A DWG NO. 605-0186 REV 08

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