

SYSTRONIX TINI LEARNING TOOL (TILT) – REVISIONS

1

SCH REV	PCB REV	DATE	BY	DESCRIPTION	SCH REV	DATE	BY
0.0		00 Feb 18	wsk	Schematic capture.			
1.0	1	00 Feb 18	wsk	Schematic capture & layout complete.			

TABLE OF CONTENTS

SHEET	TITLE
1	REVISIONS
2	NOTES
3	MODULE INTERFACE
4	EXTERNAL MEMORY
5	DECODE
6	CAN INTERFACE
7	SERIAL I/O
8	SBX INTERFACE
9	POWER & RESET

TO DO:

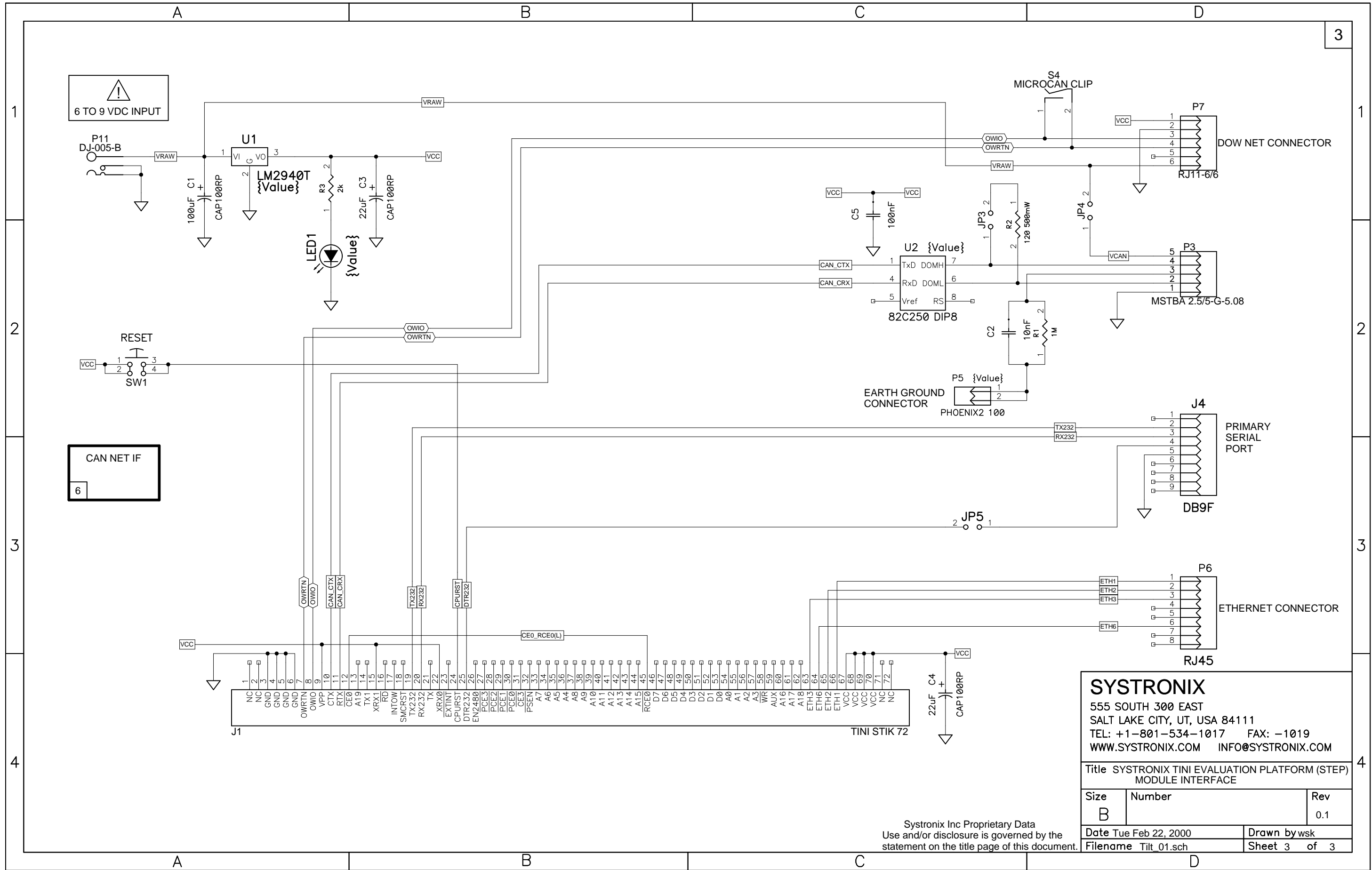
- Add larger power supply input capacitor (470µF)
- Move SIMMs farther away from SBX card
- Move SBX card 0.100 away from edge of step card.
- Fix pattern of DS2450.
- Use plated through holes on DB9s
- Silkscreen for fifth foot
- Jumper to select between external and internal one wire bus for our components

Systronix Inc Proprietary Information.
 This document contains financial, business, scientific, technical, economic or engineering information subject to USC § 1831-1839, Protection of Trade Secrets. Disclosure to others, use, or copying, without the express written authorization of Systronix Inc is strictly prohibited. Violation may result in criminal prosecution under 18 USC § 1831-1839 or 18 USC 1905.
 Copyright 1999, Systronix Inc.
 Unpublished Work. All rights reserved.

SYSTRONIX
 555 SOUTH 300 EAST
 SALT LAKE CITY, UT, USA 84111
 TEL: +1-801-534-1017 FAX: -1019
 WWW.SYSTRONIX.COM INFO@SYSTRONIX.COM

Title SYSTRONIX TINI EVALUATION PLATFORM (STEP) REVISIONS		
Size B	Number	Rev 0.1
Date Tue Feb 22, 2000	Drawn by wsk	
Filename Tilt_01.sch	Sheet 1 of 3	

A		B		C		D																									
JUMPERS JP1 - JP10				CONNECTORS J3 - J6				CONNECTORS J1 - J2				CONNECTORS J1 - J2				2															
JP1		JUMPER INSTALLED USE EXTERNAL FLASH AS BOOT DEVICE.		SHEET 5		J1		SPARE 68/72 PIN SIMM		SHEET 3		J1		J2																	
JP2		AUX LED HEADER		SHEET 5		J2		TINI STIK CONNECTOR		SHEET 3		1		NC		37 35 A8															
JP3		WHEN INSTALLED, TERMINATES THE CAN DATA SIGNALS		SHEET 6		J3		AUXILIARY RS232 (DCE) - 1- DCD (MARK) 2- RxD 3- TxD 4- NC 5- SIGNAL GROUND 6- DSR (MARK) 7- NC 8- CTS (MARK) 9- NC		SHEET 7		2		NC		38 36 A9															
JP4		1-2 SIGNAL PCE3(L) (P5.7 CONFIGURED AS AN I/O PIN) DETERMINES WHETHER SERIAL PORT 1 USES THE EXTERNAL ONE WIRE BUS (P7) OR THE AUXILIARY RS232 PORT (J3). WHEN PCS3(L) IS HIGH, COMMUNICATION IS THROUGH THE EXTERNAL ONE WIRE BUS.		SHEET 7		J4		PRIMARY RS232 (DCE) - 1- NC 2- TX232 (DCE Rx/D) 3- RX232 (DCE Tx/D) 4- DTR232 5- SIGNAL GROUND 6- NC 7- NC 8- NC 9- NC		SHEET 7		3		1		GROUND		39 37 A10													
JP5		WHEN INSTALLED, A SPACE STATE ON THE DTR SIGNAL AT J? WILL CAUSE THE ASSERTION OF CPURST.				SHEET 7		J5		SBX CONNECTOR 1- SBX +12 2- SBX -12 3- GROUND 4- VCC 5- SMCRST(H) 6- NC 7- A2 8- NC 9- A1 10- NC 11- A0 12- SBX INTERRUPT 1 13- WR(L) 14- SBX INTERRUPT0 15- RD(L) 16- NC 17- GROUND 18- VCC 19- D7 20- MCS1(L) 21- D6 22- MCS0(L) 23- D5 24- NC 25- D4 26- NC 27- D3 28- NC 29- D2 30- OWIO 31- D1 32- NC 33- D0 34- NC 35- GND 36- VCC		SHEET 8		4		2		GROUND		40 38 A11											
JP6		FIRST BIRTHDAY JUMPER. NOT NORMALLY INSTALLED.		SHEET 7		J6		ANALOG INPUT - 1- AIN1 2- GROUND 3- AIN2 4- GROUND 5- AIN3 6- GROUND 7- AIN4 8- GROUND		SHEET 7		5		3		GROUND		41 39 A12													
JP7		THIS JUMPER IS 'NORMALLY CLOSED' AND CONNECTS MODULE SIGNAL PCE2(L) TO THE OPTION 1 PIN OF THE SBX HEADER. THIS JUMPER CAN BE OPENED BY CUTTING THE TRACE BETWEEN THE PINS ON THE BOTTOM OF THE PCB. TO RECLOSE INSTALL A JUMPER.		SHEET 8		P7		ONE-WIRE NET - 1- VCC 2- GROUND 3- OWIO 4- OWRTN 5- NC 6- VRAW		SHEET 7		6		4		GROUND		42 40 A13													
JP8		EXTERNAL VPP INPUT		SHEET 9		P8		DIAGNOSTIC PORT - 1- NC 2- Tx/D 3- NC 4- GROUND 5- Rx/D 6- NC		SHEET 7		7		5		GROUND		43 41 A14													
JP9		1-2 SELECTS EXTERNAL SOURCE FOR VPP.		SHEET 9		P9		GROUND TEST POINTS		SHEET 9		8		6		OWIO		44 42 A15													
JP10		2-3 SELECTS SYSTEM POWER FOR VPP.				SHEET 9		P10		VCC TEST POINTS		SHEET 9		9		7		VPP		45 43 RCE0(L)											
JP10		WHEN INSTALLED CONNECTS THE CAN BUS POWER TO THE STEP POWER SUPPLY. THE STEP MAY EITHER POWER THE CAN NET (NOT RECOMMENDED) OR RECEIVE ITS POWER FROM THE NETWORK THROUGH THIS CONNECTION.		SHEET 9		P11		POWER IN - 8 TO 24 V DC/AC		SHEET 9		10		8		CRX		46 44 D7													
CONNECTORS P1 - P13				P12				GROUND TEST POINTS				SHEET 9				11		9		TX		47 45 D6									
P1		PUSHBUTTON HIGH		SHEET 5		P13		GROUND TEST POINTS		SHEET 9		12		10		EXTINT(L)		48 46 D5		12		10		RD(L)		16 14					
P2		PUSHBUTTON LOW		SHEET 5		P13		GROUND TEST POINTS		SHEET 9		13		11		A19		49 47 D4		13		11		A19		49 47 D4					
P3		CAN DEVICE NET - 1- SIGNAL GROUND 2- DOMINANT LOW 3- SHIELD 4- DOMINANT HIGH 5- V+		SHEET 6		P13		GROUND TEST POINTS		SHEET 9		14		12		TX		50 48 D3		14		12		TX		50 48 D3					
P4		CAN OPEN - 1- NC 2- SIGNAL GROUND 3- DOMINANT LOW 4- DOMINANT HIGH 5- SIGNAL GROUND 6- NC 7- NC 8- V+ 9- SHIELD 10- VCC		SHEET 6		P13		GROUND TEST POINTS		SHEET 9		15		13		XRX1		51 49 D2		15		13		XRX1		51 49 D2					
P5		CAN EARTH GROUND		SHEET 6		P13		GROUND TEST POINTS		SHEET 9		16		14		RD(L)		52 50 D1		16		14		RD(L)		52 50 D1					
P6		10-base-T ETHERNET - 1- ETH1 (TX) 2- ETH2 (TX) 3- RTH3 (RX) 4- NC 5- NC 6- ETH6 (RX) 7- NC 8- NC		SHEET 7		P13		GROUND TEST POINTS		SHEET 9		17		15		INTOW		53 51 D0		17		15		INTOW		17 15					
				P9				GROUND TEST POINTS				SHEET 9				18		16		SMCRST		54 52 A0		18		16		SMCRST		54 52 A0	
				P10				VCC TEST POINTS				SHEET 9				19		17		TX232		55 53 A1		19		17		TX232		55 53 A1	
				P11				POWER IN - 8 TO 24 V DC/AC				SHEET 9				20		18		RX232		56 54 A2		20		18		RX232		56 54 A2	
				P12				GROUND TEST POINTS				SHEET 9				21		19		TX		57 55 A3		21		19		TX		57 55 A3	
				P13				GROUND TEST POINTS				SHEET 9				22		20		XRX0		58 56 WR(L)		22		20		XRX0		58 56 WR(L)	
				P13				GROUND TEST POINTS				SHEET 9				23		21		EXTINT(L)		59 57 NC		23		21		EXTINT(L)		59 57 NC	
				P13				GROUND TEST POINTS				SHEET 9				24		22		CPURST		60 58 A16		24		22		CPURST		60 58 A16	
				P13				GROUND TEST POINTS				SHEET 9				25		23		DTR232		61 59 A17		25		23		DTR232		61 59 A17	
				P13				GROUND TEST POINTS				SHEET 9				26		24		EN2480		62 60 A18		26		24		EN2480		62 60 A18	
				P13				GROUND TEST POINTS				SHEET 9				27		25		PCE3(L)		63 61 ETH3 *		27		25		PCE3(L)		63 61 ETH3 *	
				P13				GROUND TEST POINTS				SHEET 9				28		26		PCE2(L)		64 62 ETH6 *		28		26		PCE2(L)		64 62 ETH6 *	
				P13				GROUND TEST POINTS				SHEET 9				29		27		PCE1(L)		65 63 ETH2 *		29		27		PCE1(L)		65 63 ETH2 *	
				P13				GROUND TEST POINTS				SHEET 9				30		28		PCE0(L)		66 64 ETH1 *		30		28		PCE0(L)		66 64 ETH1 *	
				P13				GROUND TEST POINTS				SHEET 9				31		29		CE3(L)		67 65 VCC		31		29		RX232		20 18	
				P13				GROUND TEST POINTS				SHEET 9				32		30		PSEN(L)		68 66 VCC		32		30		PSEN(L)		68 66 VCC	
				P13				GROUND TEST POINTS				SHEET 9				33		31		A7		69 67 VCC		33		31		A7		69 67 VCC	
				P13				GROUND TEST POINTS				SHEET 9				34		32		A6		70 68 VCC		34		32		A6		70 68 VCC	
				P13				GROUND TEST POINTS				SHEET 9				35		33		A5		71 NC		35		33		A5		71 NC	
				P13				GROUND TEST POINTS				SHEET 9				36		34		A4		72 NC		36		34		A4		72 NC	
				P13				GROUND TEST POINTS				SHEET 9				37		35		A8				37		35		A8			
				P13				GROUND TEST POINTS				SHEET 9				38		36		A9				38		36		A9			
				P13				GROUND TEST POINTS				SHEET 9				39		37		A10				39		37		A10			
				P13				GROUND TEST POINTS				SHEET 9				40		38		A11				40		38		A11			
				P13				GROUND TEST POINTS				SHEET 9				41		39		A12				41		39		A12			
				P13				GROUND TEST POINTS				SHEET 9				42		40		A13				42		40		A13			
				P13				GROUND TEST POINTS				SHEET 9				43		41		A14				43		41		A14			
				P13				GROUND TEST POINTS				SHEET 9				44		42		A15				44		42		A15			
				P13				GROUND TEST POINTS				SHEET 9				45		43		RCE0(L)				45		43		RCE0(L)			
				P13				GROUND TEST POINTS				SHEET 9				46		44		D7				46		44		D7			
				P13				GROUND TEST POINTS				SHEET 9				47		45		D6				47		45		D6			
				P13				GROUND TEST POINTS				SHEET 9				48		46		D5				48		46		D5			
				P13				GROUND TEST POINTS				SHEET 9				49		47		D4				49		47		D4			
				P13				GROUND TEST POINTS				SHEET 9				50		48		D3				50		48		D3			
				P13				GROUND TEST POINTS				SHEET 9				51		49		D2				51		49		D2			
				P13				GROUND TEST POINTS				SHEET 9				52		50		D1				52		50		D1			
				P13				GROUND TEST POINTS				SHEET 9				53		51		D0				53		51		D0			
				P13				GROUND TEST POINTS				SHEET 9				54		52		A0				54		52		A0			
				P13				GROUND TEST POINTS				SHEET 9				55		53		A1				55		53		A1			
				P13				GROUND TEST POINTS				SHEET 9				56		54		A2				56		54		A2			
				P13				GROUND TEST POINTS				SHEET 9				57		55		A3				57		55		A3			
				P13				GROUND TEST POINTS				SHEET 9				58		56		A4				58		56		A4			
				P13				GROUND TEST POINTS				SHEET 9				59		57		A5				59		57		A5			
				P13				GROUND TEST POINTS				SHEET 9				60		58		A6				60		58		A6			
				P13				GROUND TEST POINTS				SHEET 9				61		59		A7				61		59		A7			
				P13				GROUND TEST POINTS				SHEET 9				62		60		A8				62		60		A8			
				P13				GROUND TEST POINTS				SHEET 9				63		61		A9				63		61		A9			
				P13				GROUND TEST POINTS				SHEET 9				64		62		A10				64		62		A10			
				P13				GROUND TEST POINTS				SHEET 9				65		63		A11				65		63		A11			
				P13				GROUND TEST POINTS				SHEET 9				66		64		A12				66		64		A12			
				P13				GROUND TEST POINTS				SHEET 9				67		65		A13				67		65		A13			
				P13				GROUND TEST POINTS				SHEET 9				68		66		A14				68		66		A14			
				P13				GROUND TEST POINTS				SHEET 9				69		67		A15				69		67		A15			
				P13				GROUND TEST POINTS				SHEET 9				70		68		A16				70		68		A16			
				P13				GROUND TEST POINTS				SHEET 9				71		69		A17				71		69		A17			
				P13				GROUND TEST POINTS				SHEET 9				72		70		A18				72		70		A18			
				P13				GROUND TEST POINTS				SHEET 9				73		71		A19				73		71		A19			
				P13				GROUND TEST POINTS				SHEET 9				74		72		A20				74		72		A20			
				P13				GROUND TEST POINTS				SHEET 9				75		73		A21				75		73		A21			
				P13				GROUND TEST POINTS				SHEET 9				76		74		A22				76		74		A22			
				P13				GROUND TEST POINTS				SHEET 9				77		75		A23				77		75		A23			
				P13				GROUND TEST POINTS				SHEET 9				78		76		A24				78		76		A24			
				P13				GROUND TEST POINTS				SHEET 9																			



SYSTRONIX
 555 SOUTH 300 EAST
 SALT LAKE CITY, UT, USA 84111
 TEL: +1-801-534-1017 FAX: -1019
 WWW.SYSTRONIX.COM INFO@SYSTRONIX.COM

Title SYSTRONIX TINI EVALUATION PLATFORM (STEP) MODULE INTERFACE		
Size B	Number	Rev 0.1
Date Tue Feb 22, 2000	Drawn by wsk	
Filename Tilt_01.sch	Sheet 3 of 3	

Systronix Inc Proprietary Data
 Use and/or disclosure is governed by the statement on the title page of this document.