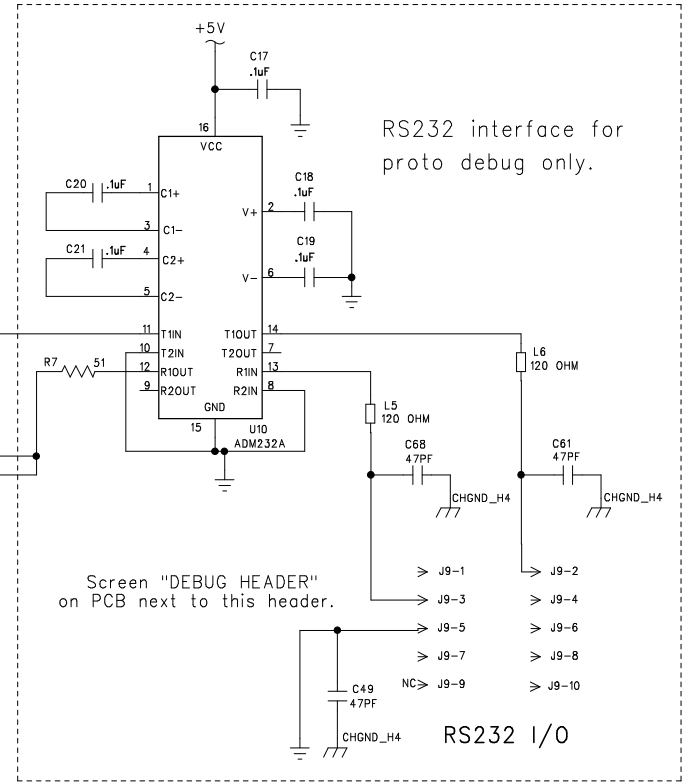
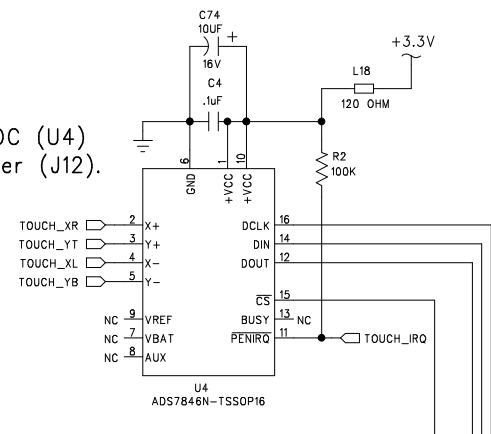


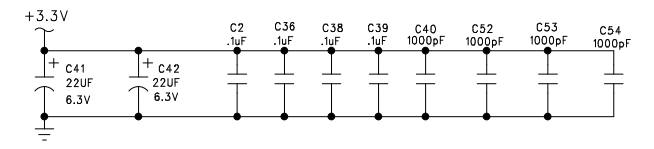
ECO#	REV:	DESCRIPTION	REV. BY:	APP. BY:	DATE
6915	A01	0006889-01 PCB WAS 0006889-00.	TH		3/25/04
6944	B00	Replace 16MHz oscillator with 20MHz	TH		3/25/04
7152	C00	Change shift register reset/enable	SL		6/14/04



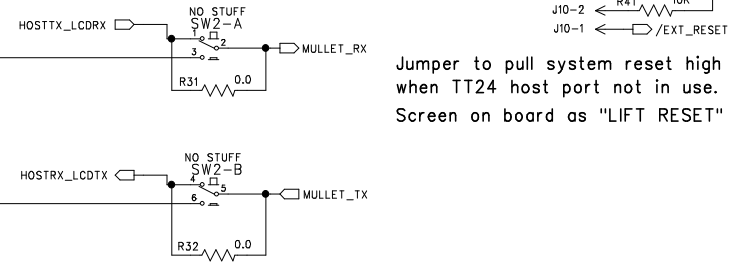
Locate touchpad ADC (U4) near touchpad header (J12).



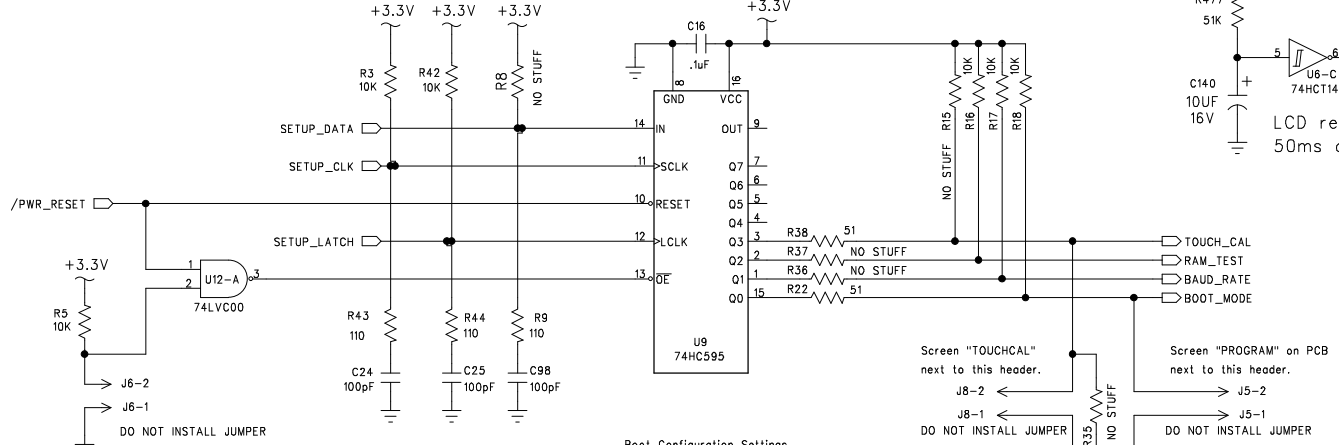
Distribute near/around Amulet chip (U1).



Mullet listen to TT24 host (up) or RS-232 port (down).



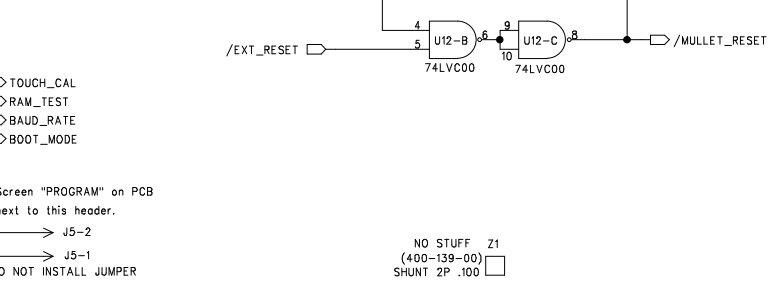
Boot configuration for Amulet controller.



PORT	NAME	"ON" (L)	"OFF" (H)
Q0	BOOT_MODE	Normal	Force program flash
Q1	BAUD_RATE	19200	115200 (Normal)
Q2	RAM_TEST	Test	Normal
Q3	TOUCH_CAL	Normal	Recalibrate Touchpad

May need to force boot mode high if unresponsive during programming.

LCD requires holding reset 50ms after power-up.



Jumper to hi-Z shift register for manual configuration. Screen "JMP CONFIG" next to header.

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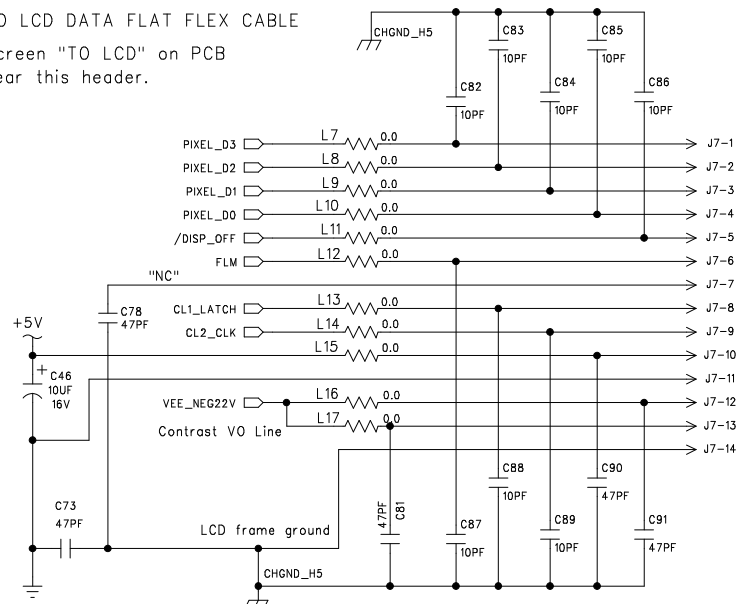
APPROVALS	DATE
DRAWN: S Luna	2/5/2004
CHECKED:	
NP ENG:	
MATERIAL:	
MFG:	
MFG ENG:	
ISSUED:	

**MACKIE**  
Mackie Designs Inc. Woodinville, Wa.

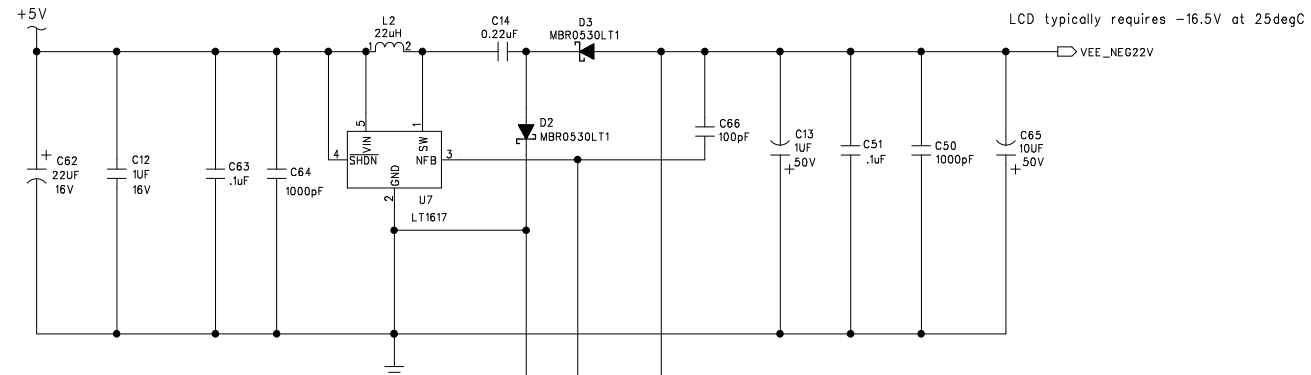
TT24 - LCD CONTROLLER BOARD

SIZE	SCALE	DWG. NO.	REV.
D	NONE	SCH0006801	C00
DWG FILE:			SHEET 1 OF 2

TO LCD DATA FLAT FLEX CABLE  
Screen "TO LCD" on PCB near this header.



### Inverting supply for EDT and Microtips displays



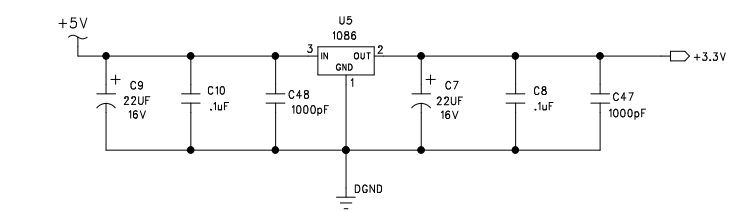
Feedback control nets should be kept as close to U7 as possible. Connect to DGND at U7.

Values shown are for Microtips LCD. Use R59 + R60 = 340K ohms if using EDT LCD.

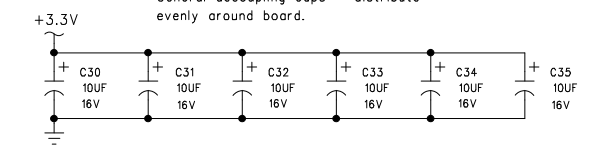
Contrast control with temperature compensated and manual adjustments.

Screen "CONTRAST" on PCB near this pot.

### 3.3V POWER

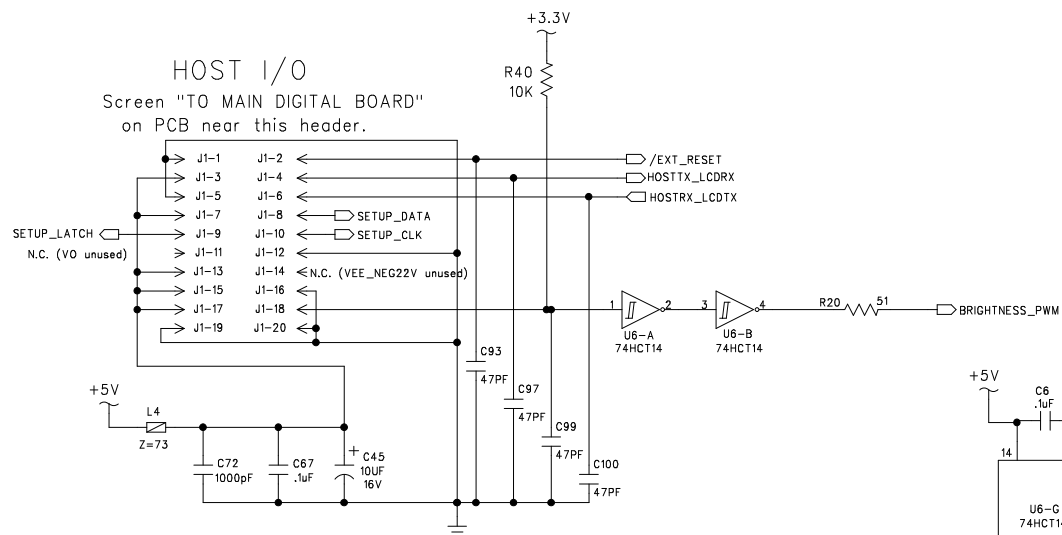


General decoupling caps - distribute evenly around board.

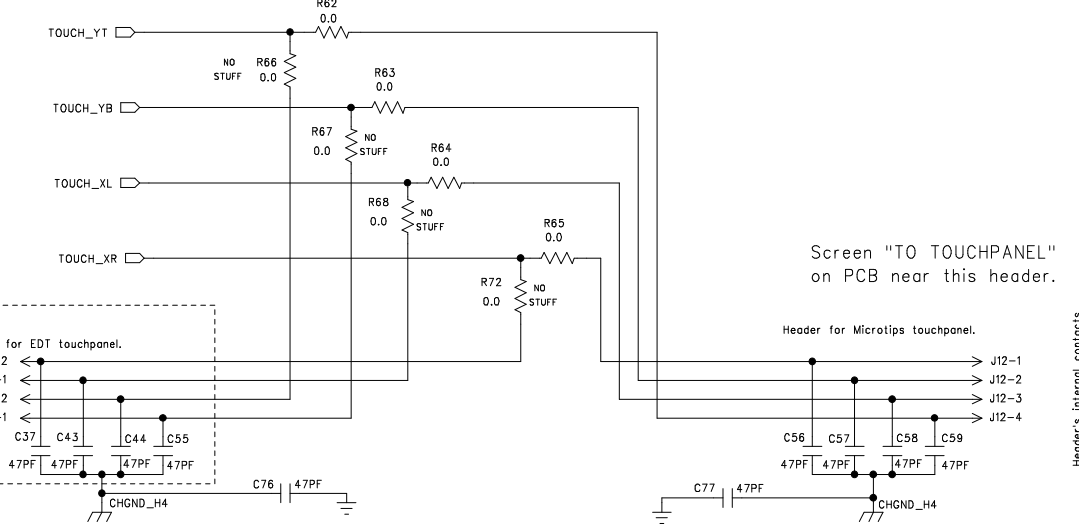


### HOST I/O

Screen "TO MAIN DIGITAL BOARD" on PCB near this header.



LAYOUT ZERO-OHM RESISTORS TO THESE TWO HEADERS TO MINIMIZE STUB LENGTH WHEN ONE IS DISCONNECTED.



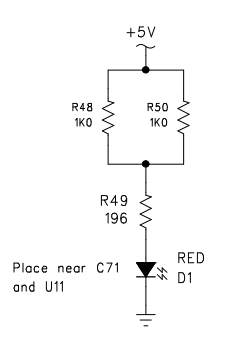
Screen "TO TOUCHPANEL" on PCB near this header.

Header for Microtips touchpanel.

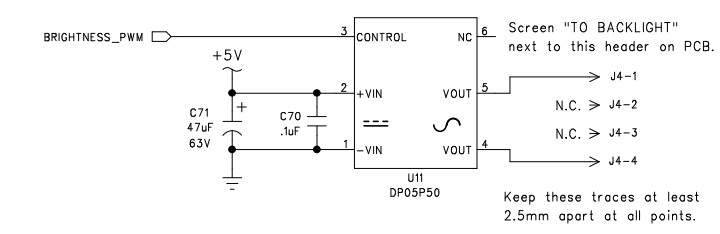
Header's internal contacts go toward board edge.

### HIGH VOLTAGE!!!

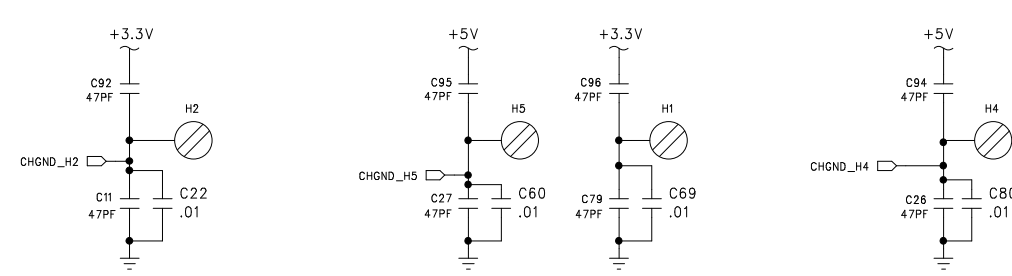
Inverter output to backlight CCFL tube.  
Approx. 1000VAC no-load, 300VAC LCD load.  
Screen "WARNING: HIGH VOLTAGE" next to this part on PCB.



Plated mounting holes = chassis ground.  
Power and DGND AC coupled to chassis.



Keep these traces at least 2.5mm apart at all points.



### SCHMATIC, TT24 - LCD CONTROLLER BOARD

SIZE: D	SCALE: NONE	DWG. NO.: SCH0006801	REV. C00
DWG FILE:		SHEET 2 OF 2	

Z3 0006899-02 PCB TT24 LCD Controller