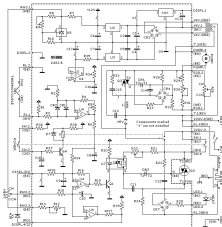


ATTEN AT850B aka MADELL 850B SERVICE INFO (115VAC North American Models)

WARNING: Dangerous voltages exist inside unit.
Always disconnect from AC power when servicing.
Document may contain errors use at your own risk.

(Revised 2008 November 2)



TRIMPOT: PURPOSE & DESCRIPTION OF ADJUSTMENT:

R5	THERMOCOUPLE GAIN ADJUSTMENT
R9	HIGH TEMPERATURE CALIBRATION
R12	LOW TEMPERATURE CALIBRATION
R22	HEATER POWER MAXIMUM LIMIT
R29	MINIMUM ALLOWABLE AIRFLOW
R30	MINIMUM ALLOWABLE AIRFLOW

Note that some circuit boards have silkscreen errors.
Please refer to parts placement diagram if in doubt.

8506 PARTS LIST

C1 100uF 35V Electrolytic	R8 10k 1/4W 5% Carbonfilm
C2 100nF 25V Ceramic TypeII	R9 2K0 1T Linear Triopot
C3 not used (850D only)	R10 3k5 1/4W 5% Carbonfilm
C4 47uF 35V Electrolytic	R12 50K 1T Linear Triopot
C5 100nF 25V Ceramic TypeII	R13 20k 1/4W 5% Carbonfilm
C6 47uF 35V Electrolytic	R14 10k 1/4W 5% Carbonfilm
C7 47uF 35V Electrolytic	R15 1k0 1/4W 5% Carbonfilm
C8 0.47uF 50V Electrolytic	R16 470K 1/4W 5% Carbonfilm
C9 0.47uF 50V Electrolytic	R17 not used (850D only)
C10 0.47uF 50V Electrolytic	R18 not used (850D only)
C11 100nF 100V Metalizedfilm	R19 100K 1/4W 5% Carbonfilm
C12 100nF 400V Metalizedfilm	R20 560R 1/4W 5% Carbonfilm
C13 10nF 430V Metalizedfilm	R21 56k 1/4W 5% Carbonfilm
C14 330nF 400V Metalizedfilm	R22 100K 1T Linear Triopot
C15 100nF 400V Metalizedfilm	R23 51R 1W 5% Flameproof
C16 47uF 35V Electrolytic	R24 R68 10W 5% Wirewound
C17 47uF 35V Electrolytic	R25 10R 1/4W 5% Carbonfilm
C18 470uF 25V Electrolytic	R26 56K 3W 5% Flameproof
CR1 1N4148 Switching Diode	R27 56K 3W 5% Flameproof
CR2 1N4148 Switching Diode	R28 500k? 1/2W Linear Pot
CR3 2M10 2A 1000V Bridge	R29 1M0 1T Linear Triopot
CR4 2M10 2A 1000V Bridge	R30 1M0 1T Linear Triopot
CR6 MMS4991 8 volt SRS	R31 10k 1/4W 5% Carbonfilm
CR7 2M10 2A 1000V Bridge	R32 1K0 1/4W 5% Carbonfilm
D7 1N4007 1A 1000V Rectifier	R33 1k0 5W 5% Wirewound
DR3 MMS4991 8 volt SRS	R34 10R 1/4W 5% Carbonfilm
DISPL T-3mm Bright Red LED	R35 10R 1/4W 5% Carbonfilm
F 5x20mm F5A/125V Fuse	R36 51k 1/4W 5% Carbonfilm
K TR5V-M-8-2-12VDC 12V 2A/120WAC	R37 75k 1/4W 5% Carbonfilm
L 100uH Torroid 86.5mm D13mm 48T	R38 220R 1/4W 5% Carbonfilm
LED1 T-3mm Bright Red LED	R39 3k5 1/4W 5% Carbonfilm
PUMP 110VAC 200mA 24LPM Diaphragm	RL 250W 110V Heating Element
Q1 2S8050-D NPN 1.5A 40V HFE230	RY not used on 115V models
Q2 BT139K-800K 15A 800V Sensitive	RSD 100k 1/2W Linear Pot
Q3 BT136-600E 4A 600V Sensitive	SW 15A 250VAC or 6A 250VAC DPST
Q4 2S8050-D NPN 1.5A 40V HFE230	T 850D PR1-110V SEC-2x12V
R1 6M0 1/4W 5% Carbonfilm	TC Type J 0.5mm diameter leads
R2 470R 1/4W 5% Carbonfilm	U2 L7812CV +12V 1A Regulator
R3 470R 1/4W 5% Carbonfilm	U3 LM79L12 -12V 100mA Regulator
R4 150k 1/4W 5% Carbonfilm	U4 TL084CN Quad OpAmp Regulator
R5 100K 1T Linear Triopot	U7 MOC3041 Zero Cross Optotriac
R6 10k 1/4W 5% Carbonfilm	U8 TL431C1P 2.3V Reference
R7 330R 1/4W 5% Carbonfilm	UX not used (850D only)

8506 PARTS PLACEMENT

