

**SCHEMATIC DIAGRAM
AND
PARTS LIST**



MODEL 1650

POWER SUPPLY

PARTS LIST

488-234-9-002E

SCHEMATIC SYMBOL	DESCRIPTION	B & K-PRECISION PART NO.
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RESISTORS & POTENTIOMETERS

R4,72,85	Trimpot, 5K Ω	010-007-9-006
R8	Trimpot, 500 Ω	010-007-9-003
R14	Trimpot, 10K Ω	010-007-9-007
R17,68	Potentiometer, 20K Ω	008-348-9-001
R18	39.2K Ω , 1/4W, 1%, Metal Film	015-141-3-922
R21	4.53 K Ω , 1/4W, 1%, Metal Film	015-141-4-531
R22,24	20K Ω , 1/4W, 1%, Metal Film	015-141-2-002
R34,78	2.49K Ω , 1/2W, 1%, Metal Film	011-149-9-001
R35,81, } 92,93 }	0.9 Ω , 1W, 1/2%, Metal Film	004-160-9-001
R65	Trimpot, 1K Ω	010-007-9-004
R66	Trimpot, 2.5K Ω	010-007-9-005
R79,95	49.9 Ω , 1/4W, 1%, Metal Film	015-141-4-998
R82	19.1K Ω , 1/4W, 1%, Metal Film	015-141-1-912
R83,88	1.33K Ω , 1/4W, 1%, Metal Film	015-141-1-331
R84	4.64K Ω , 1/4W, 1%, Metal Film	015-141-4-641
R86,87	100K Ω , 1/4W, 1%, Metal Film	015-141-1-003
R90	0.25 Ω , 10W, 1%, Wirewound	004-180-9-001

CAPACITORS

C1	26,000 μ F, 15V Electrolytic	022-176-9-001
C2,15 } 17,18 }	100 μ F, 25V Electrolytic	022-081-9-001
C3,6,9,12, } 21,24 }	47 μ F, 35V Electrolytic	022-170-9-001
C4,10 } 20 }	150pF, 500V, 10% Disc Ceramic	020-031-9-001
C5,26	10 μ F, 25V Electrolytic	022-121-9-001
C7,13, } 25 }	.05 μ F, 100V, +80/-20% Disc Ceramic	020-216-9-001
C8	50 μ F, 25V Electrolytic	022-052-9-001
C11	.033 μ F, 250V, 5% Polyester	025-042-9-001
C14,16	1500 μ F, 50V Electrolytic	022-169-9-001

**COMPOSITE
499-155-9-001F**

SCHEMATIC SYMBOL	DESCRIPTION	B & K-PRECISION PART NO.
C19,23	10μF, 25V, Tantalum	027-014-9-001
C22	33μF, 25V, Electrolytic	022-178-9-001
C27,30	150μF, 35V, Electrolytic	022-054-9-001
C28	0.1μF, 16V, 10% Disc Ceramic	020-052-9-001
C29	.01μF, 25V, Disc Ceramic	020-104-9-001
C31	.01μF, 500V, 20% Disc Ceramic	020-025-9-001

TRANSISTORS & DIODES

D1,2	3.5A, 50V Silicon Diode	151-078-9-001		
D3,4,10,11,12,13,14,15,16,17,18,23				
D5,6,21			1N4148 Silicon Diode	151-038-9-001
D7				
D8				
D9				
D19	1N749A (4.3V, .4W, 5%) Zener Diode	152-062-9-001		
D24-25	1N4735A (6.2V, 1W, 5%) Zener Diode	152-037-9-001		
Q1	Darlington NPN Power Transistor	172-049-9-001		
Q2,5,6	2N3904 NPN Transistor	176-084-9-001		
Q3,4	MJ2955 PNP Power Transistor	172-048-9-001		

INTEGRATED CIRCUITS

1C1,2,3	723C Voltage Regulator	307-009-9-001
1C4,5	324 Quad Op-Amp	307-060-9-001
1C6	Opto-Isolator	178-003-9-001

TRANSFORMERS & SWITCHES

T1	Power Transformer (105-125V, 60Hz)	065-145-9-001
	Power Transformer (105-125/210-250V, 50/60Hz)	065-145-9-002
S1	Slide Switch (Power)	084-067-9-001
S2	Slide Switch (Tracking/Independent)	084-043-9-001
S3	Rotary Switch (Metering)	083-244-9-001

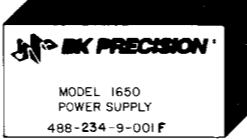
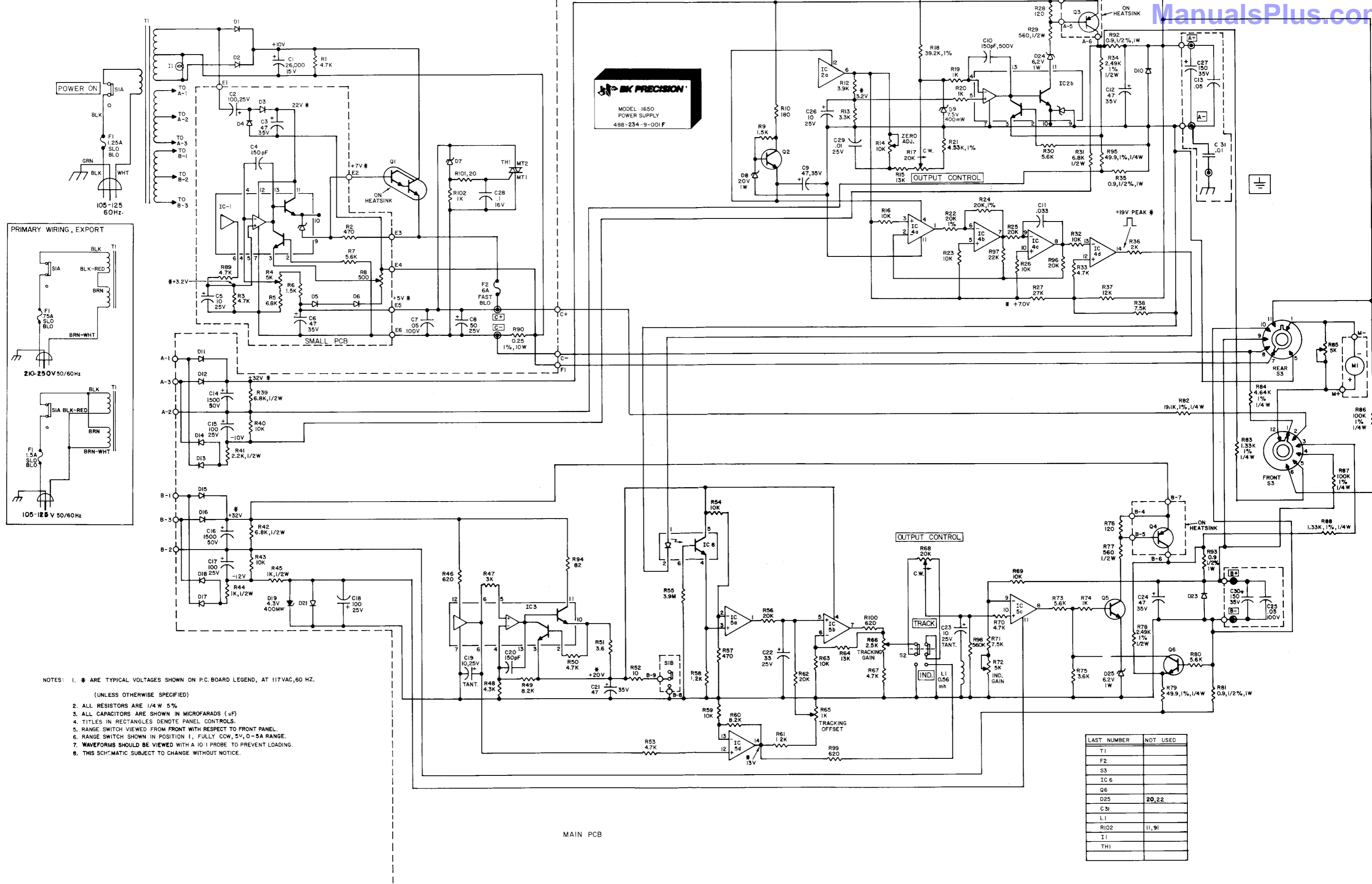
MISCELLANEOUS

L1	560μH Inductor	041-067-9-001
TH1	Triac, 200V	181-004-9-001
F1	1½A, 250V, 3AG Pigtail Slo-Blo Fuse (105-125V)	193-019-9-001
	¾A, 250V, 3AG Pigtail Slo-Blo Fuse (210-250V)	193-017-9-001
F2	6A, 250V, 3AG Pigtail Fuse	193-251-3-006

SCHEMATIC SYMBOL	DESCRIPTION	B & K-PRECISION PART NO.
M1	Top Cover	253-025-9-903
	Shield, Transistor (for Q1)	256-077-9-001
	Meter Inlay, Black	260-169-9-001
	Left End Panel (Case)	271-020-9-001
	Right End Panel (Case)	271-021-9-001
	Meter	320-101-9-001
	Insulator (for Q1,3,4)	342-048-9-001
	Insulator (for C14,16)	342-059-9-001
	Foam Pad (for Top Cover/PCB Support)	344-023-9-001
	Mica Insulator (for Q1,3,4)	347-002-9-001
	Strain Relief, Line Cord	380-001-9-001
	PC Board Support, Plastic	380-202-9-001
	Foot	381-060-9-001
	Glamour Cap (for Slide Switches)	348-008-9-001
	Power Cord (for 105-125V, 60Hz units)	420-013-9-001
	Power Cord (for 105-125/210-250V, 50/60Hz units)	420-035-9-001
	Clip Nuts (for end panels)	652-032-9-001
	6x3/8 Black Sheet Metal Screws	706-812-1-901
	Solder Lug (Q1,3,4)	744-001-9-001
	Heat Sink (Q3,4)	747-043-9-001
	Heat Sink (Q1)	747-066-9-001
	Skirted Knob	751-133-9-001
	Binding Post, Red	773-093-9-001
Binding Post, Green	773-093-9-002	
Binding Post, Black	773-093-9-003	

NOTE: Standard value resistors are not listed. Values may be obtained from schematic diagram. There is a minimum charge for each order. Orders will be shipped C.O.D. unless previous open account arrangements have been made or remittance accompanies order. Advance remittance must cover postage or express charges. Specify model and serial number when ordering replacement parts.

B & K-Precision, Factory Service Department
Maxtec International Corporation
 6470 West Cortland Street
 Chicago, Illinois 60635
 Telephone: (312) 889-1448



NOTES: 1. * ARE TYPICAL VOLTAGES SHOWN ON P.C. BOARD LEGEND, AT 117VAC, 60 HZ.

(UNLESS OTHERWISE SPECIFIED)

2. ALL RESISTORS ARE 1/4W 5%
3. ALL CAPACITORS ARE SHOWN IN MICROFARADS (uF)
4. TITLES IN RECTANGLES DENOTE PANEL CONTROLS.
5. RANGE SWITCH VIEWED FROM FRONT WITH RESPECT TO FRONT PANEL.
6. RANGE SWITCH SHOWN IN POSITION 1, FULLY CCW, 5V, 0-5A RANGE.
7. WAVEFORMS SHOULD BE VIEWED WITH A 10:1 PROBE TO PREVENT LOADING.
8. THIS SCHEMATIC SUBJECT TO CHANGE WITHOUT NOTICE.

LAST NUMBER	NOT USED
T1	
F2	
S3	
IC 6	
Q6	
D25	20, 22
C31	
L1	
R102	11, 9
I1	
TH1	

MAIN PCB