

**PARTS ORDERING INFORMATION**

There is a minimum charge for each invoice. Orders will be shipped C.O.D. unless previous open account arrangements have been made or remittance accompanies order. Advance remittance must cover handling, postage, or express charges. Specify model and serial number when ordering replacement parts.

**ORDER REPLACEMENT PARTS FROM:**

B & K-Precision  
 Factory Service Operations  
 6470 West Cortland Street  
 Chicago, Illinois 60635



**BK PRECISION®**  
 6470 W. Cortland St. • Chicago, IL 60635

© 1992 • MAXTEC INTERNATIONAL CORP

PRINTED IN U.S.A.

**SERVICING  
 INFORMATION**



**MODEL 490**

**CRT TESTER/REJUVENATOR**

**PARTS LIST**

488-318-9-002C

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

Unlisted resistors are  $\pm 5\%$ , 1/4W. See schematic diagram for value.

R7-9	24 $\Omega$ $\pm 5\%$ , 1/4W, Carbon	002-104-8-249
R10-12	316 $\Omega$ $\pm 1/2\%$ , 1/2W, Metal Film	011-217-9-001
R16	10k $\Omega$ Trimmer Pot	008-058-9-001
R19	499k $\Omega$ $\pm 10\%$ , 1/2W, Carbon	002-032-9-001
R20	50k $\Omega$ Trimmer Pot	008-093-9-001
R22	50k $\Omega$ Potentiometer (TRACKING Control)	008-135-9-001
R23	250k $\Omega$ Trimmer Pot	008-071-9-001
R33	50k $\Omega$ Potentiometer (SET G1 Control)	008-135-9-001
R37	51k $\Omega$ 5%, 1W, Carbon	001-001-8-513
R38	3.3k $\Omega$ $\pm 5\%$ , 1W, Carbon	001-001-8-332
R39	4.7 $\Omega$ $\pm 10\%$ , 1/2W, Wire Wound	006-102-9-479
R40,41	470k $\Omega$ $\pm 10\%$ , 1/2W, Carbon	001-102-9-474
R43	30k $\Omega$ $\pm 10\%$ , 10W, Glass	003-010-6-303
R44	100k $\Omega$ $\pm 5\%$ , 2W, Carbon	001-002-9-104
R46-48	620k $\Omega$ $\pm 5\%$ , 2W, Metal Film	011-221-9-001
R49-51	50k $\Omega$ Potentiometer (G2 Controls)	008-135-9-001
R58	82 $\Omega$ $\pm 5\%$ , 1W, Carbon	001-001-8-820
R65,66	2.4 $\Omega$ $\pm 5\%$ , 1/4W, Carbon	002-104-8-249
R67	3 $\Omega$ 12-1/2W, Wire Wound Pot (HTR ADJ Control)	009-038-9-001
R70	470 k $\Omega$ $\pm 5\%$ , 2W, Metal Film	011-220-9-001
R71 (120V)	1M $\Omega$ $\pm 10\%$ , 1/2W, Carbon	002-102-5-105
R71 (110/220V)	2.2M $\Omega$ $\pm 5\%$ , 1/2W, Carbon	002-102-5-225

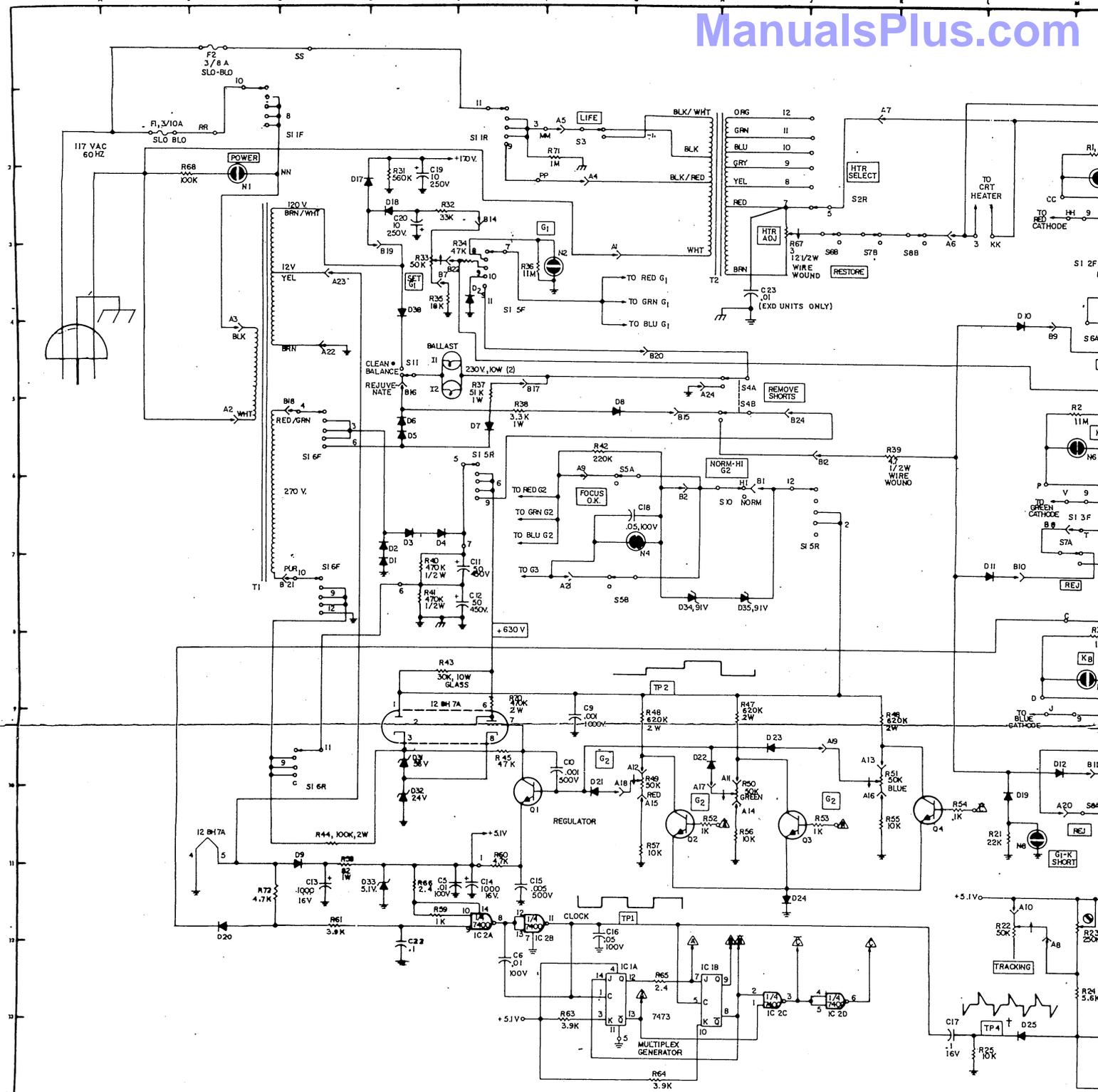
**CAPACITORS**

C1-3	220 $\mu$ F, 10V, PC Electrolytic	022-109-9-001
C4	Not Used	
C5-8	.01 $\mu$ F $\pm 80$ -%20%, 100V, Ceramic Disc	020-101-9-001

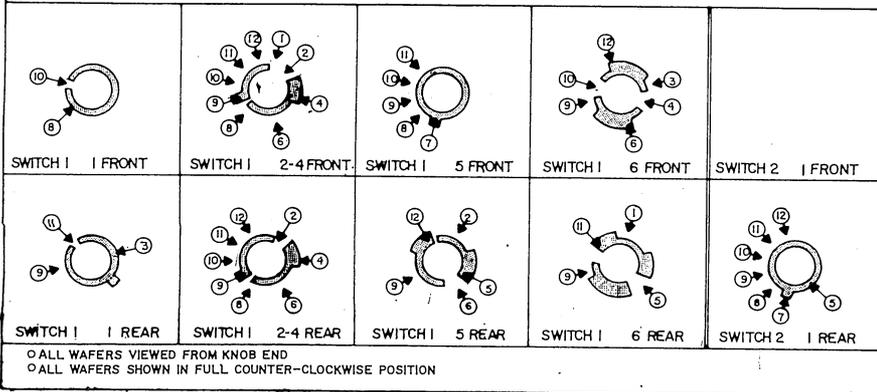
**COMPOSITE**  
 499-380-9-001C

SCHEMATIC SYMBOL	DESCRIPTION	B & K-PRECISION PART NO.
<b>SWITCHES</b>		
S1	5-position Rotary Switch (Function)	083-165-9-001
S2	6-position Rotary Switch (Htr. Range)	083-091-9-001
S3,4,5,9	4-Station Pushbutton Assembly*	088-020-9-001
	(or) (ALT)	088-187-9-001
S6,7,8	Pushbutton Switch, DPDT Momentary*	088-026-9-001
	(or) (ALT)	088-189-9-001
S10	SPDT Slide Switch	084-001-9-001
S11	DPDT Slide Switch	084-001-9-003
<b>MISCELLANEOUS</b>		
F1	Fuse, 3/10A, 250V, 3AG, Slow Blow	190-004-9-001
F2	Fuse, 3/8A, 250V, 3AG, Slow Blow	190-251-3-308
I1,2	Bulb, 230V, 10W	400-034-9-001
M1	Lamp Socket	752-007-9-001
M2	Meter, Heater Volts	320-059-9-001
M3	Meter, G1 Volts	320-060-9-001
N1-8	Meter, Line Volts	320-058-9-001
V1	Neon Bulb, with 7" Leads	401-016-9-001
	12BH7A Vacuum Tube	236-120-2-087
	Tube Socket, 9-pin Miniature	749-001-9-001
	Line Cord (U.S./CSA Version)	420-013-9-001
	Line Cord (European Version)	420-070-9-001
	Case Assembly (Complete)	524-031-9-001
	Case Top (Only)	271-487-9-001
	Case Bottom (Only)	271-488-9-001
	Case Latch (Only (2 Rq'd)	754-008-9-001
	Case Nameplate (Only)	600-197-9-001
	Front Panel	255-272-9-001
	Knob, Function	751-353-9-001
	Knob, Heater Range	751-352-9-001
	Knob, Small	751-351-9-001
	Pushbutton Cap, Black (Used with "M" Switches)	384-016-9-006
	Pushbutton Cap, Black (for ALT Sw's)	384-128-9-001
	Lens Cap, Red	750-003-9-001
	Lens Cap, Amber	750-003-9-003
	Insert, Plastic (for chassis)	380-627-9-001
	Adaptor Storage Assy	524-030-9-001
	Foam Pad (Adaptor Storage)	388-131-9-001
	Output Cable	427-013-9-001
	Instruction Manual	480-640-9-001
	Setup Chart	497-022-0-000

SCHEMATIC SYMBOL	DESCRIPTION	B & K-PRECISION PART NO.
<b>CAPACITORS (Continued)</b>		
C9	.001µF ±20%, 1kV, Ceramic Disc	020-133-9-001
C10	.001µF ±10%, 500V, Ceramic Disc	020-072-9-001
C11,12	50µF, 450V, Axial Lead Electrolytic	021-056-9-001
C13,14	1000µF, 16V, PC Electrolytic	022-283-9-001
C15	.005µF ±20%, 500V, Ceramic Disc	020-064-9-001
C16	.50µF +80/-20%, 100V, Ceramic Disc	020-102-9-001
C17	0.1µF ±20%, 16V, Ceramic Disc	020-065-9-001
C18	.05µF +80/-20%, 100V, Ceramic Disc	020-102-9-001
C19,20	10µF, 250V, PC Electrolytic	021-040-9-001
C21	0.47µF ±10%, 200V, Mylar	025-044-9-001
C22	0.1µF ±20%, 16V, Ceramic Disc	020-065-9-001
C23	0.1µF ±20%, 500V, Ceramic Disc (Export Version)	020-025-9-001
<b>DIODES</b>		
D1-15	1 Amp, 600 PIV Diode	151-050-9-001
D16	Not Used	
D17-19	1 Amp, 600 PIV Diode	151-050-9-001
D20-25	1N4148 Silicon Diode	151-038-9-001
D26-28	1 Amp, 600 PIV Diode	151-050-9-001
D29	1N4148 Silicon Diode	151-038-9-001
D30	1N67(A) Germanium Diode	150-008-9-001
D31	1N4758, Zener Diode, 56V ±10%, 1W	152-056-9-001
D32	1N4749A, Zener Diode, 24V ±5%, 1W	152-014-9-001
D33	1N4733A, Zener Diode, 5.1V ±5%, 1W	152-030-9-001
D34,35	Zener Diode, 91V ±10%, 1W	152-058-9-001
D36,37	1N4758, Zener Diode, 56V ±10%, 1W	152-056-9-001
<b>TRANSISTORS</b>		
Q1-7	2N5550, NPN Silicon Transistor	176-033-9-001
Q8-10	NPN Medium Power Transistor	176-052-9-001
<b>INTEGRATED CIRCUITS</b>		
IC1	7473 Dual J-K Flip-Flop	307-010-9-001
IC2	7400 Quad 2-Input NAND Gate	307-015-9-001
<b>TRANSFORMERS</b>		
T1	Power Transformer, 117V	065-098-9-001
T1	Power Transformer, 220V	065-098-9-002
T2	Filament Transformer	062-004-9-001



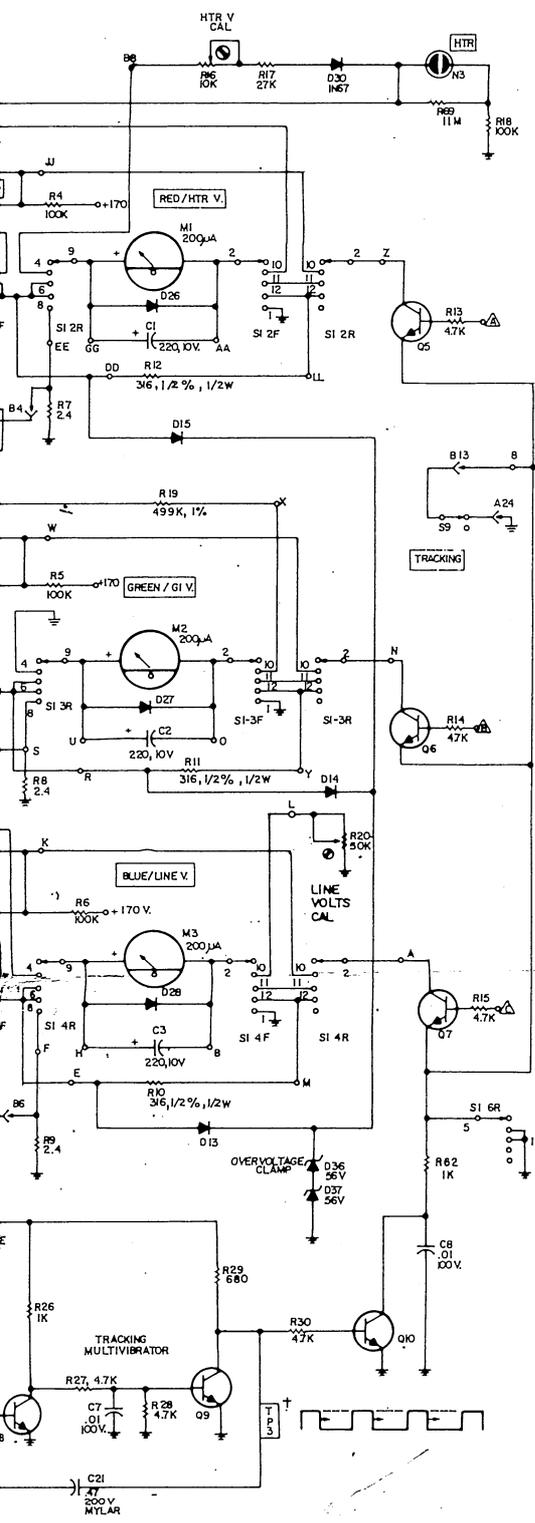
PICTORIAL VIEW OF SWITCH WAFERS



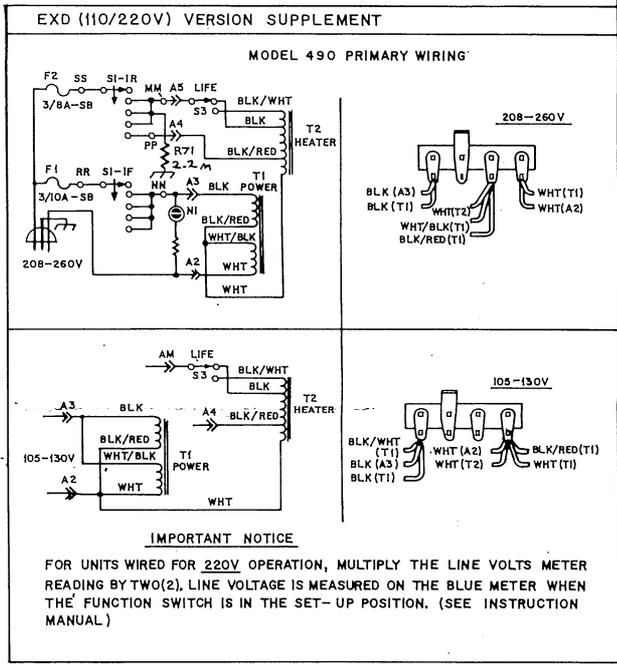
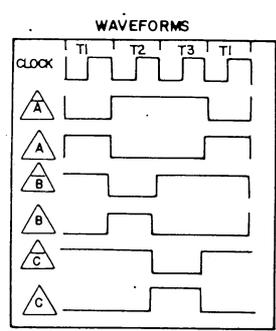
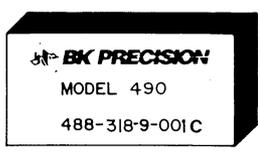
SWITCH LEGEND (S1)

POSITION	FUNCTION
1	POWER OFF
2	SET UP
3	SET CUTOFF
4	TEST
5	RESTORE

○ ALL WAFERS VIEWED FROM KNOB END  
 ○ ALL WAFERS SHOWN IN FULL COUNTER-CLOCKWISE POSITION



**CAUTION: THIS UNIT CONTAINS HIGH VOLTAGE SUPPLIES. BE CAUTIOUS WHEN SERVICING.**



**OUTPUT CABLE**

FUNCTION	WIRE COLOR	PIN NO.
HTR.	BLK	1
HTR.	BRN	2
GI RED	GRY	3
GI GRN	TAN	4
GI BLU	PUR	5
K RED	RED	6
K GRN	GRN	7
K BLU	BLU	8
G2 RED	ORG	9
G2 GRN	YEL	10
G2 BLU	PINK	11
G3 / G4	WHT	12

**CIRCUIT SYMBOL LEGEND**

LAST NUMBER USED	NOT USED
C 23	4
D 38	16
I 2	
IC 2	
M 3	
N 8	
Q 10	
R 72	
S 11	
F 2	
T 2	

**NOTE:**  
 ALL RESISTORS ARE 5%, 1/4W, UNLESS OTHERWISE SPECIFIED.  
 ALL 1% RESISTORS ARE 1/2W, UNLESS OTHERWISE SPECIFIED.  
 ALL CAPACITORS SHOWN IN MICROFARADS.  
 ARROWS ON POT WIPERS INDICATE CLOCKWISE ROTATION.

THIS SCHEMATIC SUBJECT TO CHANGE WITHOUT NOTICE.  
 Δ AND ∇ INDICATE LOGIC SYMBOLS  
 ↓ CIRCUIT GND CHASSIS  
 VARIES WITH CONTROL SETTINGS)

**IMPORTANT NOTICE**  
 FOR UNITS WIRED FOR 220V OPERATION, MULTIPLY THE LINE VOLTS METER READING BY TWO(2). LINE VOLTAGE IS MEASURED ON THE BLUE METER WHEN THE FUNCTION SWITCH IS IN THE SET-UP POSITION. (SEE INSTRUCTION MANUAL)

ISSUE	SHEET 1 OF 1		
C	488	318	9 001
ISSUE	CHANGES	BY	CHKD
A	RELD FOR PURCHASE EK 10-26-88		
B	SHOW 3 WIRE CORD SET AT MAIN DIAGRAM RK 12-9-91 CN 781		
C	SHOW ALT R71 VALUE AT EXD WIRING RK 7-25-92 CN 840		

**DYNASCAN CORPORATION**  
 1801 W. BELLE PLAINE CHICAGO, ILLINOIS 60613

**TITLE**  
 SCHEMATIC, 490

UNLESS OTHERWISE INDICATED  
 1. ALL DIMENSIONS ARE IN INCHES  
 2. ALL DIMENSIONS ARE IN INCHES  
 3. TOLERANCES:  
 FRACTIONS ± 1/64  
 DECIMAL ± .005  
 HOLES ± .003  
 ANGLES ± 30'

APPROVED BY: [Signature] DATE: 10-13-88  
 APPROVED BY: [Signature] DATE: 10-12-88

ISSUE SHEET 1 OF 1  
 488 .318 9 001

DO NOT SCALE DRAWING