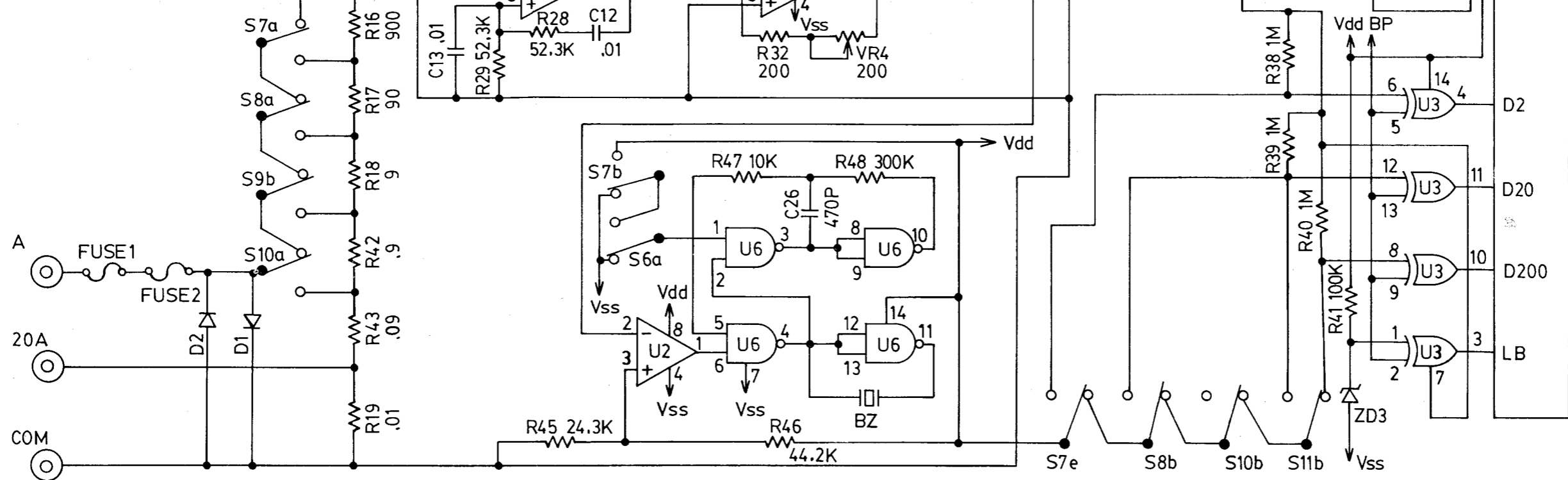
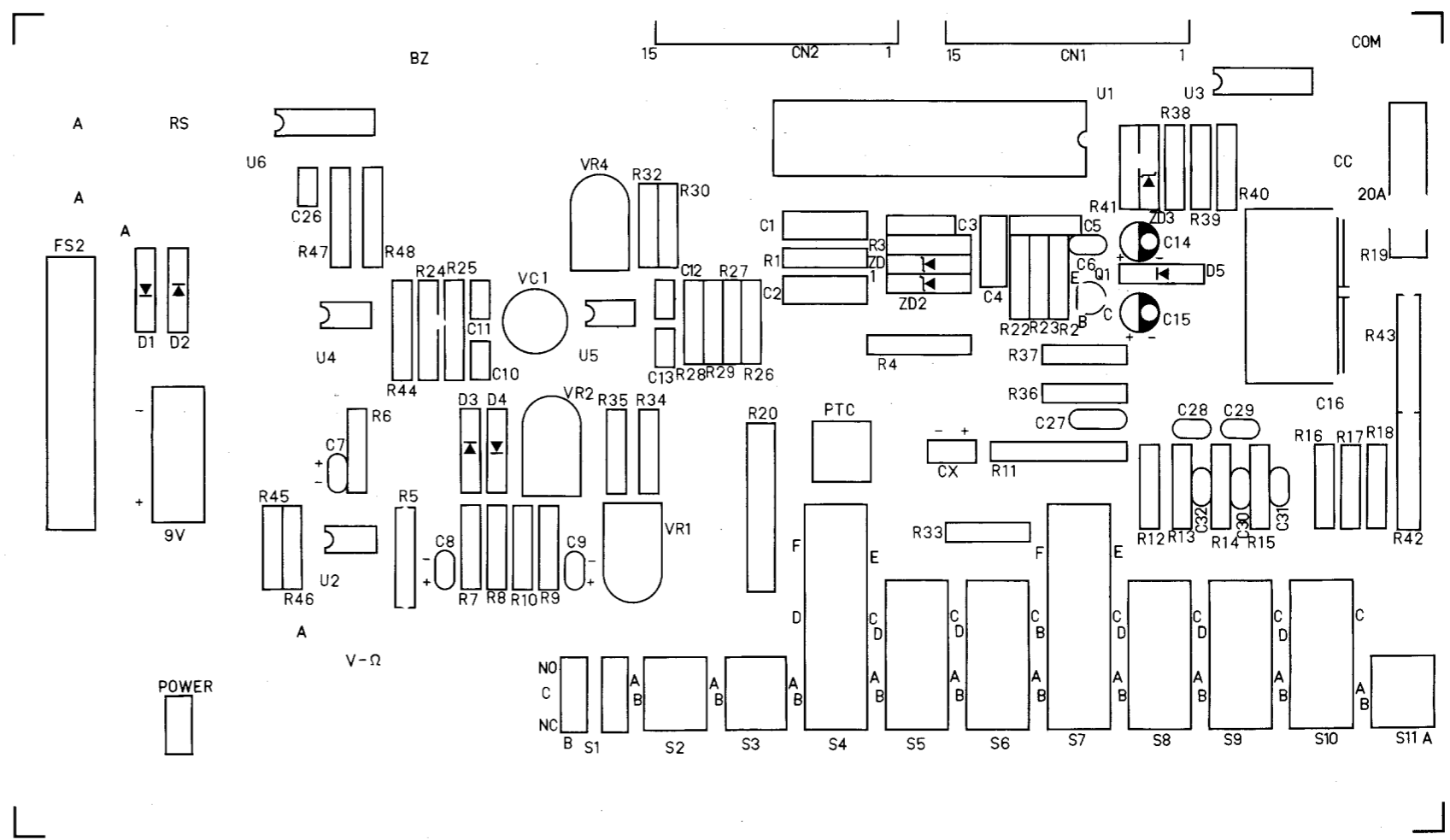


- U1 7106
- U2 TL062
- U3 4070
- U4 LM358
- U5 TL062
- U6 4011

SCHEMATIC DIAGRAM



SCHEMATIC DIAGRAM



P.C.B. COMPONENT LOCATION

SERVICING INFORMATION

BK PRECISION 2832

3-1/2 Digit Bench DIGITAL MULTIMETER

SCHEMATIC SYMBOL	DESCRIPTION	DYNASCAN PART NO.
RESISTORS		
PTC	500 Ω ±30%, Thermistor	005-018-9-001
R1	221 kΩ ±1%, 1/8 W, Metal Film	015-184-2-213
R2	113 kΩ ±1%, 1/8 W, Metal Film	015-184-1-133
R3	100 kΩ ±5%, 1/8 W, Carbon Film	002-108-5-104
R4,5	1 MΩ ±5%, 1/2 W, Carbon Film	002-102-5-105
R6	9.1 MΩ ±5%, 1/8 W, Carbon Film	002-108-5-915
R7	10 kΩ ±5%, 1/8 W, Carbon Film	002-108-5-103
R8	10 kΩ ±1%, 1/8 W, Metal Film	015-184-1-002
R9	470 kΩ ±5%, 1/8 W, Carbon Film	002-108-5-474
R10	4.32 kΩ ±1%, 1/8 W, Metal Film	015-184-4-321
R11	9 MΩ ±0.2%	013-121-9-002
R12	900 kΩ ±0.2%, 1/8 W, Metal Film	013-129-9-008
R13	90 kΩ ±0.2%, 1/8 W, Metal Film	013-129-9-007
R14	9 kΩ ±0.2%, 1/8 W, Metal Film	013-129-9-006
R15	900 Ω ±0.2%, 1/8 W, Metal Film	013-129-9-004
R16	900 Ω ±0.5%, 1/8 W, Metal Film	013-129-9-005
R17	90 Ω ±0.5%, 1/8 W, Metal Film	013-129-9-002
R18	9 Ω ±0.5%, 1/8 W, Metal Film	013-129-9-001
R19	0.01 Ω, 20A Shunt	004-229-9-004
R20	1 kΩ ±5%, 3W, Wirewound	004-229-9-003
R21	Not Used	
R22,23	100 kΩ ±5%, 1/8W, Carbon Film	002-108-5-104
R24	105 kΩ ±1%, 1/8 W, Metal Film	015-184-1-053
R25	210 kΩ ±1%, 1/8 W, Metal Film	015-184-2-103
R26	1.91 kΩ ±1%, 1/8 W, Metal Film	015-184-1-911
R27	4.12 kΩ ±1%, 1/8 W, Metal Film	015-184-4-121
R28,29	52.3 kΩ ±1%, 1/8 W, Metal Film	015-184-5-232
R30	10 kΩ ±1%, 1/8 W, Metal Film	015-184-1-002
R31	Not Used	
R32	200 Ω ±1%, 1/8 W, Metal Film	015-184-2-000
R33	100 Ω ±0.5%, 1/8 W, Metal Film	013-129-9-003
R34	18.2 kΩ ±1%, 1/8 W, Metal Film	015-184-1-822
R35	576 kΩ ±1%, 1/8 W, Metal Film	015-184-5-760
R36	13 kΩ ±1%, 1/8 W, Metal Film	015-184-1-302
R37	2.49 kΩ ±1%, 1/8 W, Metal Film	015-184-2-491
R38-40	1 MΩ ±5%, 1/8 W, Carbon Film	002-108-5-105
R41	100 kΩ ±5%, 1/8 W, Carbon Film	002-108-5-104
R42	0.9 Ω ±5%, 1W, Wirewound	004-229-9-002
R43	0.09 Ω ±1%, 2W, Wirewound	004-229-9-001
R44	15 kΩ ±1%, 1/8 W, Metal Film	015-184-1-502
R45	24.3 kΩ ±1%, 1/8 W, Metal Film	015-184-2-432

**COMPOSITE
499-356-9-001**

SCHEMATIC SYMBOL	DESCRIPTION	DYNASCAN PART NO.
RESISTORS (continued)		
R46	442 kΩ ±1%, 1/8 W, Metal Film	015-184-4-423
R47	10 kΩ ±5%, 1/8 W, Carbon Film	002-108-5-103
R48	300 kΩ ±5%, 1/8 W, Carbon Film	002-108-5-304
VR1	200 Ω ±20%, ±200 ppm, Trimmer Potentiometer	010-037-9-001
VR2	500 Ω ±20%, ±200 ppm, Trimmer Potentiometer	010-037-9-002
VR3	Not Used	
VR4	200 Ω ±20%, ±200 ppm, Trimmer Potentiometer	010-037-9-001
CAPACITORS		
C1	0.1 μF ±10%, 250V, Polyester	025-258-9-001
C2	0.22 μF ±10%, 100V, Polyester	025-253-9-002
C3	0.01 μF ±10%, 100V, Polyester	025-258-9-002
C4,5	0.1 μF ±10%, 100V, Polyester	025-253-9-001
C6	100 pF, ±5%, 50V, Ceramic	020-389-9-002
C7	4.7 μF ±20%, 10V, Tantalum	027-080-9-001
C8	0.22 μF ±20%, 16V, Tantalum	027-080-9-002
C9	1 μF ±20%, 16V, Tantalum	027-080-9-003
C10-13	0.01 μF ±5%, 50V, Polyester	025-266-9-002
C14	10 μF ±80/-20%, Electrolytic	022-342-9-002
C15	100 μF ±80/-20%, Electrolytic	022-360-9-001
C16	0.22 μF ±10%, 630V, Polyester	025-266-9-001
C17-25	Not Used	
C26	470 pF ±5%, 50V, Ceramic	020-391-9-001
C27	5 pF ±0.25 pF, 1000V, Ceramic	020-405-9-001
C28	390 pF ±5%, 50V, Ceramic	020-405-9-002
C29	120 pF ±5%, 50V, Ceramic	020-388-9-004
VC1	5-30 pF Trimmer	028-104-9-001
DIODES AND TRANSISTORS		
D1,2	Diode, 1A, 600V	151-050-9-001
D3,4	1N4148 Diode	151-038-9-001
D5	Diode, 1A, 600V	151-050-9-001
ZD3	NEC 5.6V B3 Zener Diode	152-072-9-001
Q1	8050D Transistor	176-195-9-001
INTEGRATED CIRCUITS		
U1	TSC7106CPL	308-168-9-001
U2	TL062CP	307-353-9-001
U3	CD4070BCN	308-376-9-001
U4	LM358	307-134-9-001
U5	TL062CP	307-353-9-001
U6	MC1401HUBCP	308-114-9-001
SWITCHES		
	Pushbutton Switch (POWER/AC/DC)	088-164-9-003
	Pushbutton Switch (Function)	088-164-9-001
	Pushbutton Switch (Range)	088-164-9-002
MISCELLANEOUS		
LCD	Liquid Crystal Display	238-037-9-001
	LCD Holder	254-112-9-001
	LCD Window	380-549-9-001
	Window Mask (For LCD)	769-173-9-001
	Zebra Rubber (LCD Connector)	769-173-9-002
	Buzzer	583-015-9-001
	Bracket (For Buzzer)	250-217-9-001
	250V, 2A, 3AG Fuse	191-251-3-002

SCHEMATIC SYMBOL	DESCRIPTION	DYNASCAN PART NO.
MISCELLANEOUS (continued)		
	Fuse Holder (For 2A Fuse)	742-056-9-001
	600V, 4A, High Energy Fuse	194-008-9-001
	Fuse Clip (For High Energy Fuse)	741-189-9-001
	AC Adapter	523-975-9-001
	DC Power Jack	777-066-9-001
	Battery Holder	521-144-9-001
	Battery And Test Lead Housing	256-252-9-001
	Snap Connector (9V Battery Type)	771-035-9-001
	"+" 9V Battery Type Snap Terminal	777-066-9-006
	"-" 9V Battery Type Snap Terminal	777-066-9-007
	15-Wire Ribbon Cable Assembly	428-148-9-001
	15-Pin PC Board Connector	777-066-9-005
	40-Pin IC Socket	762-017-9-001
	Case Top	271-372-9-001
	Case Bottom	271-373-9-001
	Front Panel	255-254-9-001
	Front Panel Overlay	260-458-9-001
	Rear Panel Assembly	521-143-9-001
	Handle	746-081-9-001
	Pushbutton Knob (Red, POWER)	384-095-9-001
	Pushbutton Knob (Brown, AC/DC, V, etc.)	384-095-9-002
	Pushbutton Knob (Tan, Range)	384-095-9-003
	Capacitance Test Jack (Cx)	757-120-9-001
	Input Jack (White, 20A, A)	777-066-9-002
	Input Jack (Red, V-Ω- →)	777-066-9-003
	Input Jack (Black, COM)	777-066-9-004
	Shield Film (2 Used)	256-251-9-001
	Shield Contact Lug	744-040-9-002
	Solder Lug (2 Used)	744-040-9-001
	Rubber Foot (Front, With Locator Pin)	381-163-9-001
	Rubber Foot (Rear)	381-163-9-002
	Model FP-30 Replacement Test Lead Set	
	Shrouded Type (1 Red, 1 Black)	534-830-0-000
	Instruction Manual	480-548-9-001

ACCESSORIES SUPPLIED

1 AC Adaptor
1 Set Safety Type Test Leads, 1 red, 1 black
1 Spare Fuse
Instruction Manual

OPTIONAL ACCESSORIES

MODEL	DESCRIPTION
TX-506	Surface Measurement Temperature Probe, Type "K" Thermocouple, - 50° to +600° C
TX-507	Immersion Temperature Probe, Type "K" Thermocouple, -50° to +700° C
CP-1	Clamp-On AC Current Probe
PR-23	Demodulator Probe
PR-21	Isolation/Direct Probe
HV-6	High Voltage Probe, 6 kV
PR-28	High Voltage Probe, 40 kV
FP-10	10-Amp Test Leads
FP-30	Replacement Test Lead Set

U.S.A. 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, Dynascan Corporation
Factory Service Operations
6460 West Cortland Street
Chicago, Illinois 60635
Telephone (312) 889-8870
Telex: 25-3475

Also use this address for technical inquiries.



6460 West Cortland Street
Chicago, Illinois 60635

CAUTION

Make certain that the batteries are installed properly, noting correct polarity, before turning the instrument on.

Do not remove the black plastic battery holder from the metal tray. Doing so could damage the battery holder leads.

6. Tilt the metal tray up and push it into the compartment. Hand-tighten the thumbscrew.

CALIBRATION

This unit was accurately adjusted at the factory before shipment. Readjustment is recommended only if repairs have been made in a circuit affecting adjustment accuracy, or if you have reason to believe the unit is out of adjustment. However, adjustments should be attempted only if the following equipment is available:

DC Voltage Calibrator with accuracy of 0.05% or better.
AC Voltage Calibrator with accuracy of 0.1 % or better.
19 nF (0.019 μ F) Reference Capacitance with tolerance of 0.2 % or better.

If readjustment is required, use the following procedure in the specified order. Always calibrate all three functions, even if repairs were only made to circuits affecting one of the functions. All calibration should be performed after multimeter has been stabilized at 23^o \pm 2^oC (73^o \pm 3^oF) for at least 30 minutes.

DC Voltage Calibration

1. Adjust the output of the DC voltage calibrator for 190 mV.
2. Set the multimeter for the DC V function and select the **200 mV** range.
3. Connect the DC voltage calibrator output to the multimeter voltage input jacks.
4. Adjust VR 1 on the multimeter for a reading of 190.0 or 190.1 on the LCD display.
5. Disconnect the DC voltage calibrator from the multimeter.

AC Volts Calibration

1. Adjust the output of the AC voltage calibrator for 190 mV.
2. Set the multimeter for AC V function and select the **200 mV** range.
3. Connect the AC voltage calibrator to the multimeter voltage input jacks.
4. Adjust VR 2 on the multimeter for a reading of 190.0 \pm 1 digit on the display.
5. Disconnect the AC voltage calibrator from the multimeter.

Capacitance Calibration

1. Set the multimeter for DC and CX functions and select the **20 nF** range.
2. Connect a precision 19 nF reference capacitor to the CX test jacks.
3. Adjust VR 4 on the multimeter for a reading of 19.00 on the LCD display.

INSTRUMENT REPAIR AND CALIBRATION SERVICE

Because of the specialized skill and test equipment needed for instrument repair and calibration, many customers

prefer to rely upon **B & K-Precision** authorized service agencies for this purpose. To use this service, even if your multimeter is no longer under warranty, follow the instructions given in the WARRANTY SERVICE INSTRUCTIONS portion of this manual. There is a nominal charge for instruments out of warranty.

ADDITIONAL SERVICING INFORMATION

Refer to the separately supplied Schematic Diagram & Parts List. An experienced instrument technician can perform most servicing with this document as a reference. Requests for additional servicing information should be directed to Factory Service Operations at the address listed in the WARRANTY SERVICE INSTRUCTIONS. Be sure to specify Model 2832.