

# AD-4531A

## DIGITAL INDICATOR

### TECHNICAL INFORMATION

Tech-AD-4531A-v.1.a 94/10/26 HYM

## AD-4531A

# PARTS LIST

7 P Z : 2 7 0 2			
CIRCUIT SYMBOL	PARTS NAME	DESCRIPTION	Q' TY
16 C9~ C25 C26 22, 27, 28 C5, 6	PC : 2 7 0 2 B	PRINTED CIRCUIT BOARD	1
	CC : 0. 0 0 1 U - C	CAPACITOR 0.001 $\mu$ F 50V	8
	CC : 0. 0 1 U 5 0 0 V	CAPACITOR 0.01 $\mu$ F 500V	1
	CC : 0. 0 2 2 U	CAPACITOR 0.022 $\mu$ F	1
	CC : 0. 1 U 2 5 V - C	CAPACITOR 0.1 $\mu$ F 25V	5
21 C17~ C23, C7, 8 C2 C1	CC : 1 0 0 P - C	CAPACITOR 100pF	5
	CM : H U 1 C 1 0 4 J - C	CAPACITOR 0.1 $\mu$ F	2
	CM : W U 1 C 2 2 4 J - C	CAPACITOR 0.22 $\mu$ F	2
	CT : 1 C 2 R 2 - C	CAPACITOR 2.2 $\mu$ F 16V	1
	CT : 1 C 4 R 7 - C	CAPACITOR 4.7 $\mu$ F 16V	1
D1~ D5, 6 J2 J1 J4	DI : 1 S S 1 8 7 - C	DIODE	4
	DI : 1 S S 2 2 6 - C	DIODE	2
	J I : 1 1 P - S 2 T 2 - E F	CONNECTOR	1
	J K : J M I 6 L H - 1 0 B C T	CONNECTOR	2
	K O : 3 6 1 A - S 2 0 G R / Y	FASTEN CABLE	1
L8 L1~ L7 Q1~ R36	LL : L E M 3 2 2 5 T 5 6 0 K	INDUCTOR	1
	NF : E X C C E T 1 0 2 U	EMI FILTER	6
	NF : M - 6 2 0 T	EMI FILTER	1
	QT : C 2 8 8 1 Y - C	TRANSISTOR 2SC2881Y	5
	RC : 1 / 1 0 W 1 0 0 J	RESISTOR 10 $\Omega$ 1/10W	1
5 R14, R11 26 R24~7, 35 R16, R22	RC : 1 / 1 0 W 1 0 2 J	RESISTOR 1K $\Omega$ 1/10W	2
	RC : 1 / 1 0 W 1 0 3 J	RESISTOR 10K $\Omega$ 1/10W	1
	RC : 1 / 1 0 W 1 0 4 J	RESISTOR 100K $\Omega$ 1/10W	3
	RC : 1 / 1 0 W 1 0 5 J	RESISTOR 1M $\Omega$ 1/10W	3
	RC : 1 / 1 0 W 1 5 2 J	RESISTOR 1.5K $\Omega$ 1/10W	1
R21 , R33, R34 R1~ , 12, 13 R9, 1 R18 R23	RC : 1 / 1 0 W 1 5 3 J	RESISTOR 15K $\Omega$ 1/10W	1
	RC : 1 / 1 0 W 2 2 1 J	RESISTOR 220 $\Omega$ 1/10W	10
	RC : 1 / 1 0 W 2 2 2 J	RESISTOR 2.2K $\Omega$ 1/10W	4
	RC : 1 / 1 0 W 2 2 4 J	RESISTOR 220K $\Omega$ 1/10W	1
	RC : 1 / 1 0 W 2 7 2 J	RESISTOR 2.7K $\Omega$ 1/10W	1
R20 R19 R28 R38 R37	RC : 1 / 1 0 W 3 3 2 J	RESISTOR 3.3K $\Omega$ 1/10W	1
	RC : 1 / 1 0 W 5 6 3 J	RESISTOR 56K $\Omega$ 1/10W	1
	RF : R R 1 3 3	RESISTOR NETWORK	1
	RF : 2 D 1 8 K R F	RESISTOR 18K $\Omega$ F	1
	RF : 2 D 2 7 R R F	RESISTOR 27 $\Omega$ F	1
U6 U5 U7 U8 U1	UA : C 4 0 6 2 G 2	OPE AMP	1
	UA : C 4 7 4 1 G 2	OPE AMP	1
	UA : C 8 4 2 G 2	OPE AMP	1
	UA : S - 8 0 7 4 0 A N X	VOLTAGE COMPARATOR	1
	UC : D 7 8 0 1 2 B G C 6 4 6	CPU	1
U3 U4 U2 U9 X1	UC : H C 0 2 F	HCMOS	1
	UC : H C 4 0 6 6 F	HCMOS	1
	UC : S - 2 9 1 4 A I F 1 0	EEPROM	1
	UC : 7 S 3 2 F	CMOS	1
	XT : C 4 C B - 8 M M 0 2 - R	OSC	1

# PARTS LIST

7 P Z : 2 7 0 3

CIRCUIT SYMBOL	PARTS NAME	DESCRIPTION	Q' TY
C3, 4, 11 C13 C12 C1	PC : 2 7 0 3 B CC : FK1 6 Y 5 V 1 H 1 0 4 CC : 0. 0 1 U CC : 0. 0 1 U 5 0 0 V CK : SME 1 0 V B 2 2 0	PRINTED CIRCUIT BOARD CAPACITOR 0.1 $\mu$ F 50V CAPACITOR 0.01 $\mu$ F 50V CAPACITOR 0.01 $\mu$ F 500V CAPACITOR 220 $\mu$ F 10V	1 3 1 1 1
C2 C5 C8, 10 PHC1 D1	CK : SME 1 6 V B 3 3 0 0 CM : E 6 1 0 4 K F CM : V 1 H 2 2 4 J Z T DF : TLP 6 2 7 - 2 DI : 1 B 4 B 4 2	CAPACITOR 3300 $\mu$ F 16V CAPACITOR 0.1 $\mu$ F CAPACITOR 0.22 $\mu$ F 50V PHOTO CUPPLER BRIDGE DIODE	1 1 2 1 1
D2, 3 FH1, 2  J3 J1	DI : 1 S 1 5 8 8 FH : 8 5 P N 0 8 1 9 FS : EAWK - 1 0 0 M A JI : CL 5 8 1 - 0 1 4 6 - 1 JI : 1 1 P - S 2 T 2 - E F	DIODE FUSE HOLDER FUSE 100mA CONNECTOR CONNECTOR	2 2 1 1 1
TT1~7, J4 L1 R1, 2 R10, 12 R9, 11	JT : 6 1 1 3 4 - 1 NF : ELF - 1 8 D 2 9 0 S RC : NAT 1 K RC : NAT 1 R RC : NAT 1 0 K	FASTEN TAB NOISE FILTER RESISTOR 1K $\Omega$ 1/4W RESISTOR 1 $\Omega$ 1/4W RESISTOR 10K $\Omega$ 1/4W	8 1 2 2 2
R5, 6 R7 R4 R8 R3	RC : NAT 2 2 K RM : RNM 1 3. 3 K F RM : RNM 2 4 K F RM : RNM 4. 5 3 K F RM : RNM 9. 3 1 K F	RESISTOR 22K $\Omega$ 1/4W RESISTOR 13.3K $\Omega$ F RESISTOR 24K $\Omega$ F RESISTOR 4.53K $\Omega$ F RESISTOR 9.31K $\Omega$ F	2 1 1 1 1
S1 TF1 TP1, 2 U2 U1	SS : SSS 0 2 2 TF : 4 1 4 B TM : LC - 2 - G - 0 UA : C 8 4 2 C UR : TA 7 8 DL 0 5 S HT : IC - 2 4 2 5 - ST QA : AC 2 5 6 - 1 6 7 4	SLIDE SWITCH TRANSFORMER TEST POINT OPE AMP VOLTAGE REGULATOR HEAT SINK COOL SHEET	1 1 2 1 1 1 1

# PARTS LIST

7 P Z : 2 7 1 9

CIRCUIT SYMBOL	PARTS NAME	DESCRIPTION	Q' TY
C2,7 C1,3~6 J1 L1	PC: 2719 CC: FK16Y5V1H104 CK: SME25VB10 JI: CL581-0147-4 NF: ZJY51R5-2P	PRINTED CIRCUIT BOARD CAPACITOR 0.1 $\mu$ F 50V CAPACITOR 10 $\mu$ F 25V CONNECTOR NOISE FILTER	1 2 5 1 1
U1	UC: MAX232CPE 05: B47981	RS232C SPACER 12mm	1 1

# PARTS LIST

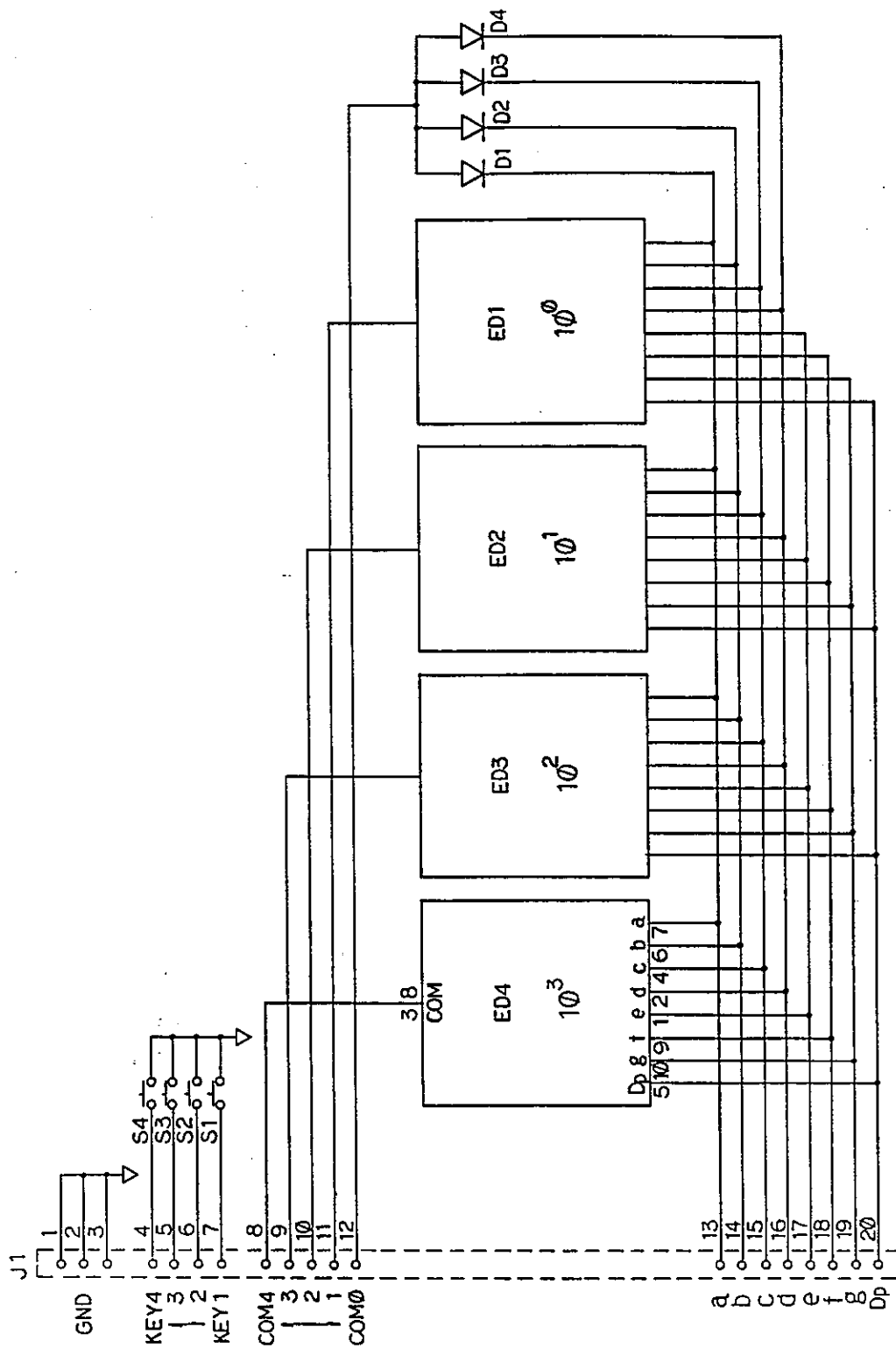
7 P Z : 2 7 2 0

7 P Z : 2 7 2 0			
CIRCUIT SYMBOL	PARTS NAME	DESCRIPTION	Q' TY
C2 C1 PC1 D1	PC : 2 7 2 0 CC : FK 1 6 Y 5 V 1 H 1 0 4 CK : SME 2 5 VB 1 0 DF : TLP 5 2 1 - 1 DI : 1 B 4 B 4 2	PRINTED CIRCUIT BOARD CAPACITOR 0.1 $\mu$ F 50V CAPACITOR 10 $\mu$ F 25V PHOTO CUPPLER BRIDGE DIODE	1 1 1 1 1
J1 L1 Q1,2 R3 R1,2	J I : CL 5 8 1 - 0 1 4 7 - 4 NF : Z J Y 5 1 R 5 - 2 P QT : C 1 8 1 5 Y RC : NAT 1 0 K RC : NAT 3 3 0 R	CONNECTOR NOISE FILTER TRANSISTOR 2SC1815Y RESISTOR 10K $\Omega$ 1/4W RESISTOR 330 $\Omega$ 1/4W	1 1 2 1 2
	0 5 : B 4 7 9 8 1	SPACER 12mm	1

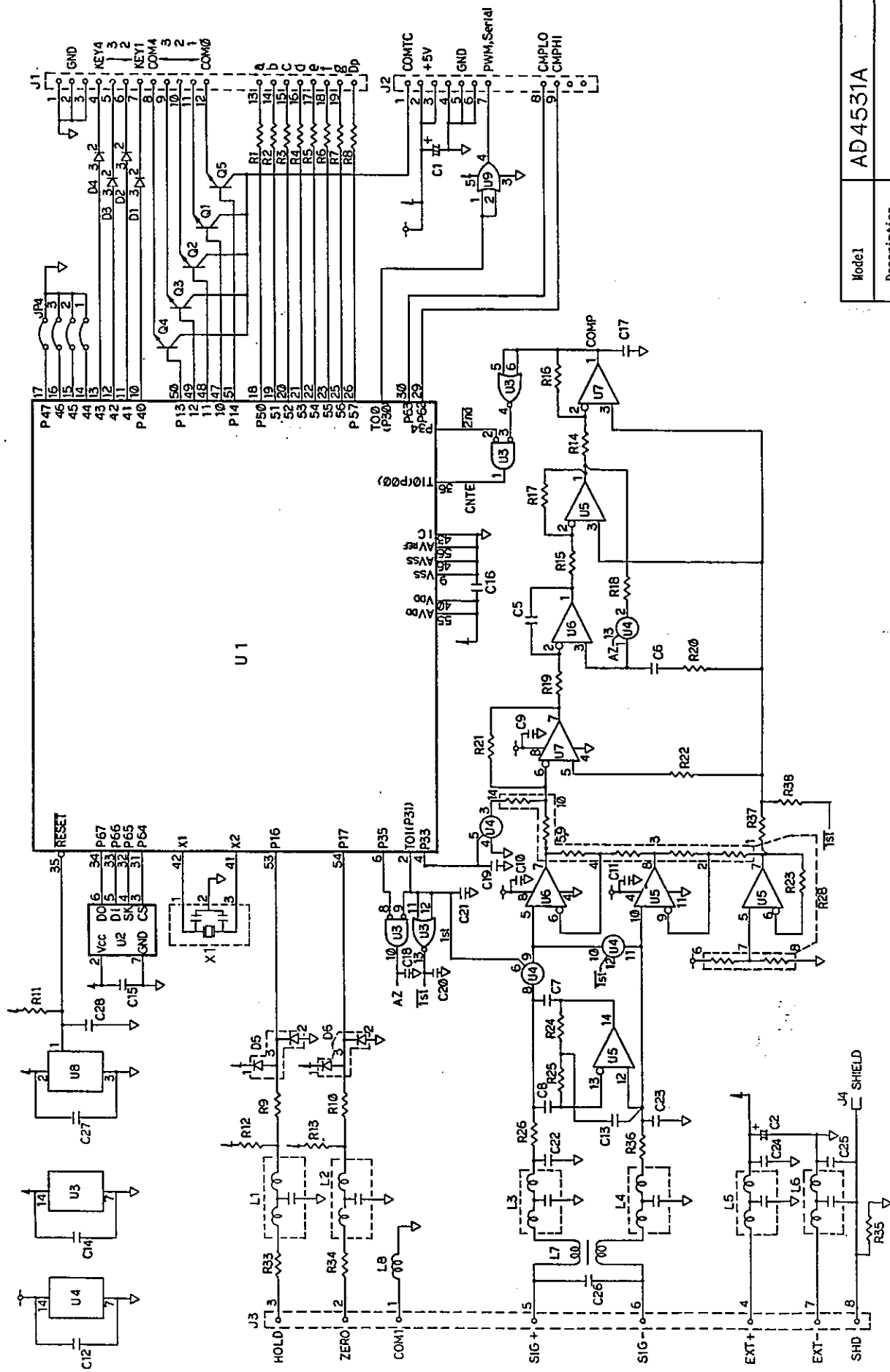
# PARTS LIST

7 P Z : 2 7 2 1

CIRCUIT SYMBOL	PARTS NAME	DESCRIPTION	Q' TY
C2, 3, 4 C1 J1 Q1	PC: 2 7 2 1 CC: FK16Y5V1H104 CK: SME25VB10 JI: CL581-0147-4 QF: K30ATM-Y	PRINTED CIRCUIT BOARD CAPACITOR 0.1 $\mu$ F 50V CAPACITOR 10 $\mu$ F 25V CONNECTOR FET 2SK30ATM-Y	1 3 1 1 1
Q2 R7 R8 R3 R9	QT: C1815Y RC: NAT18K RC: NAT390R RF: 15.6KRF RF: 15RRF	TRANSISTOR 2SC1815Y RESISTOR 18K $\Omega$ 1/4W RESISTOR 390 $\Omega$ 1/4W RESISTOR 15.6K $\Omega$ F RESISTOR 15 $\Omega$ F	1 1 1 1 1
R2 R4 R1 R5, 6 VR1	RF: 490RRF RF: 5.2KRF RF: 8KRF RF: 9116 RV: 64X100R	RESISTOR 490 $\Omega$ F RESISTOR 5.2K $\Omega$ F RESISTOR 8K $\Omega$ F RESISTOR NETWORK VARIABLE RESISTOR 100 $\Omega$	1 1 1 2 1
VR2 U1, 2	RV: 64X500R UA: OP295GP 05: B47981	VARIABLE RESISTOR 500 $\Omega$ OPE AMP SPACER 12mm	1 2 1



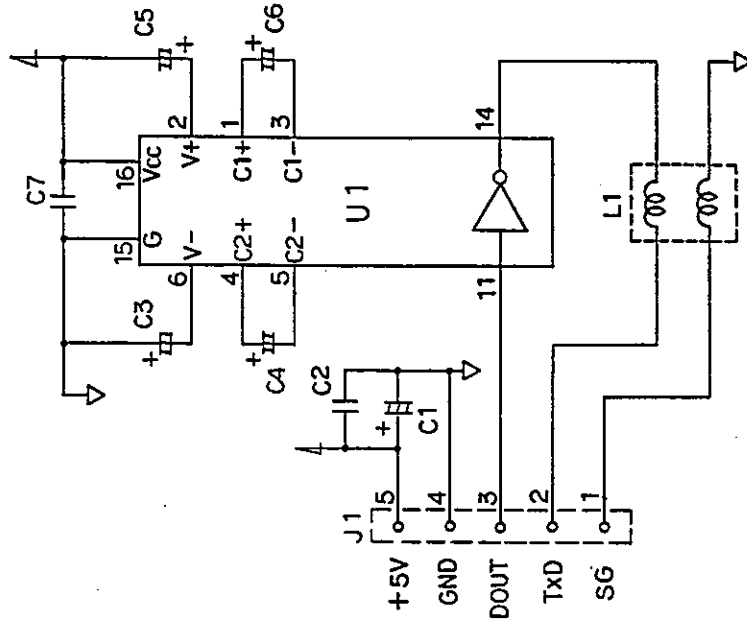
Model	AD4531A
Description	
Stock No.	PZ 2701
Drng. No.	EC3-01717B



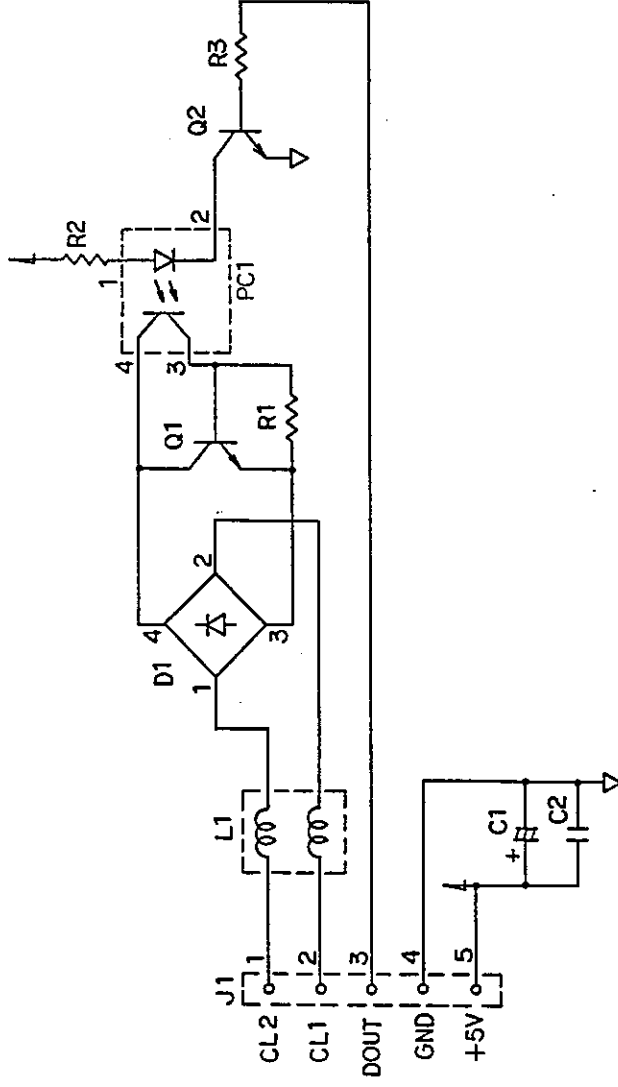
Model	AD4531A
Description	
Stock No	PZ:2702
Drwg. No.	EC3-01718F



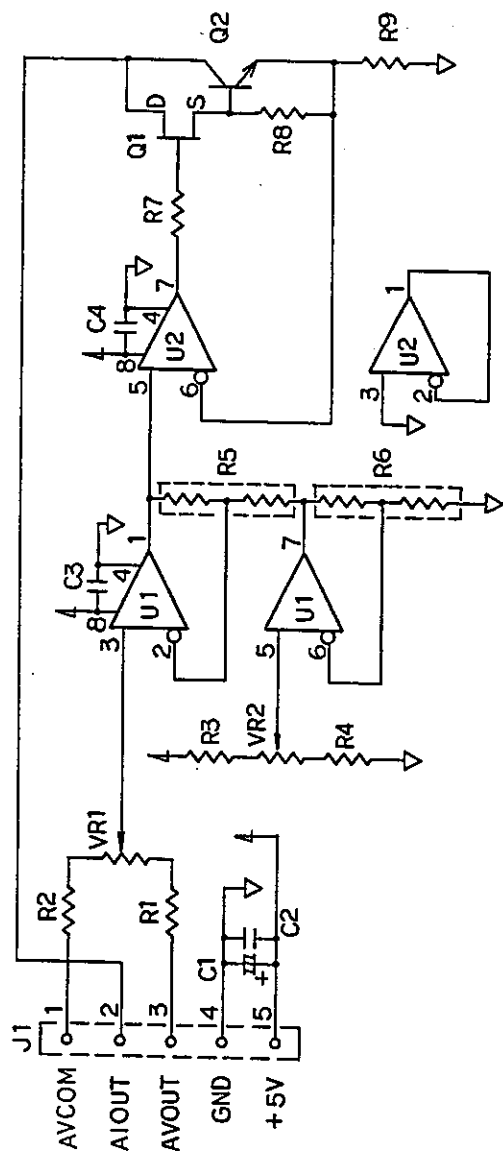




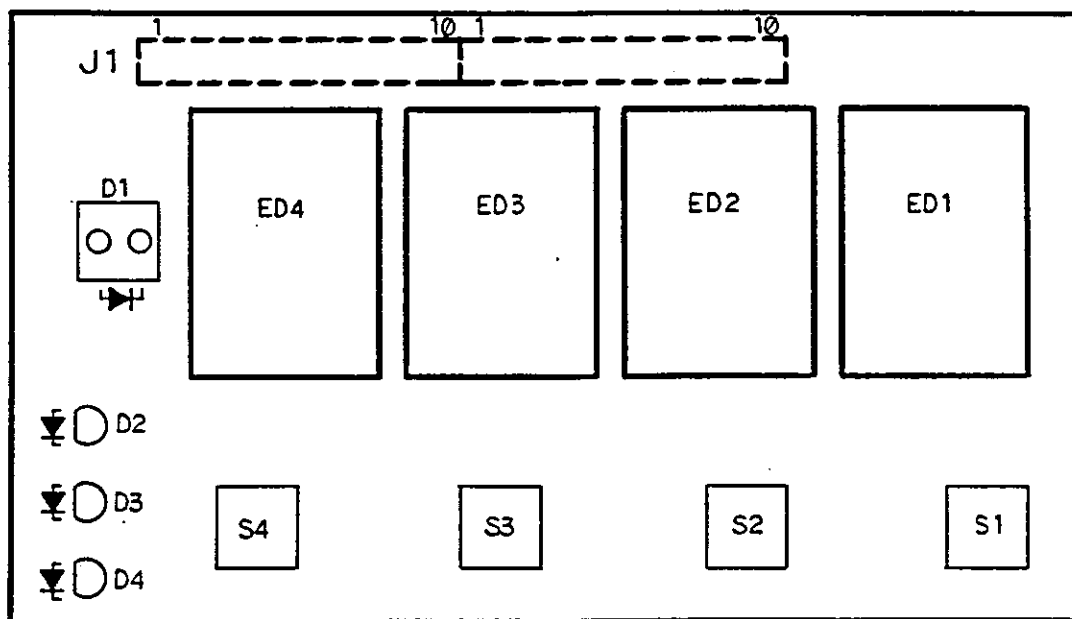
Model	AD4531-04
Description	
Stock No.	PZ:2719
Drwg. No.	EC3-01706



Model	AD4531-05
Description	
Stock No	PZ:2720
Drwg. No	EC3-01707

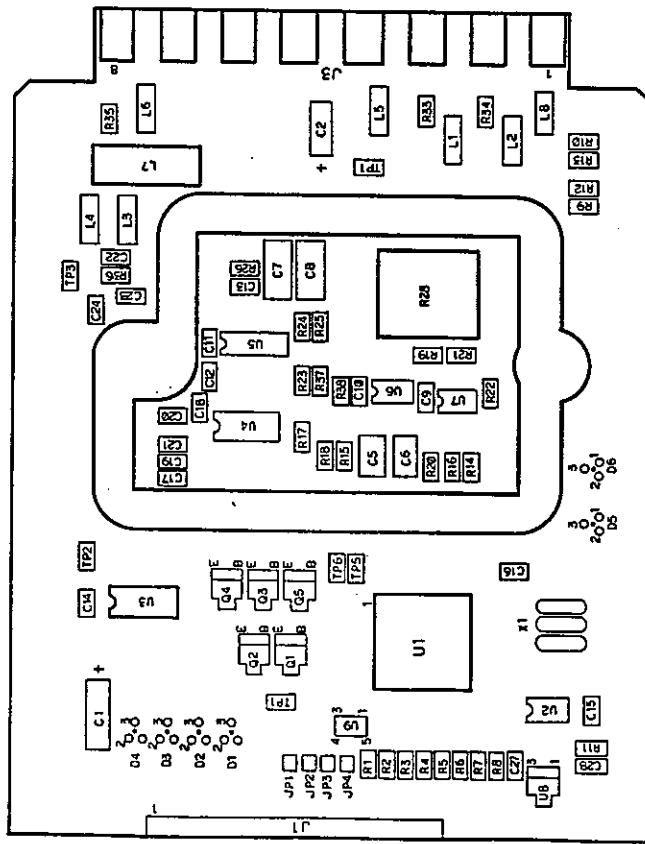


Model	AD4531-07
Description	
Stock No	PZ 2721
Drwg. No	EC3-01718B

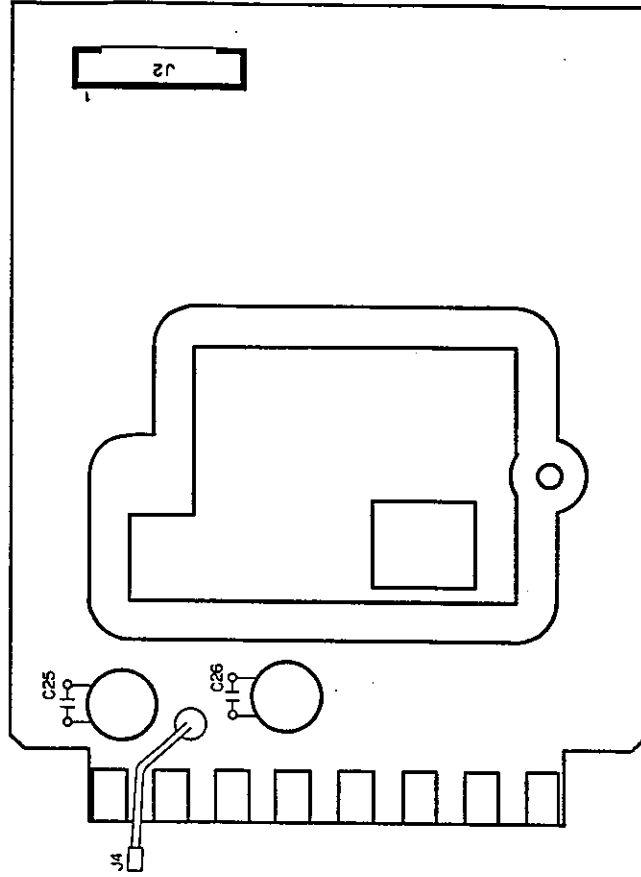


Model	AD4531A
Description	
Stock No.	PZ:2701
Drwg. No.	KZ4-00506C

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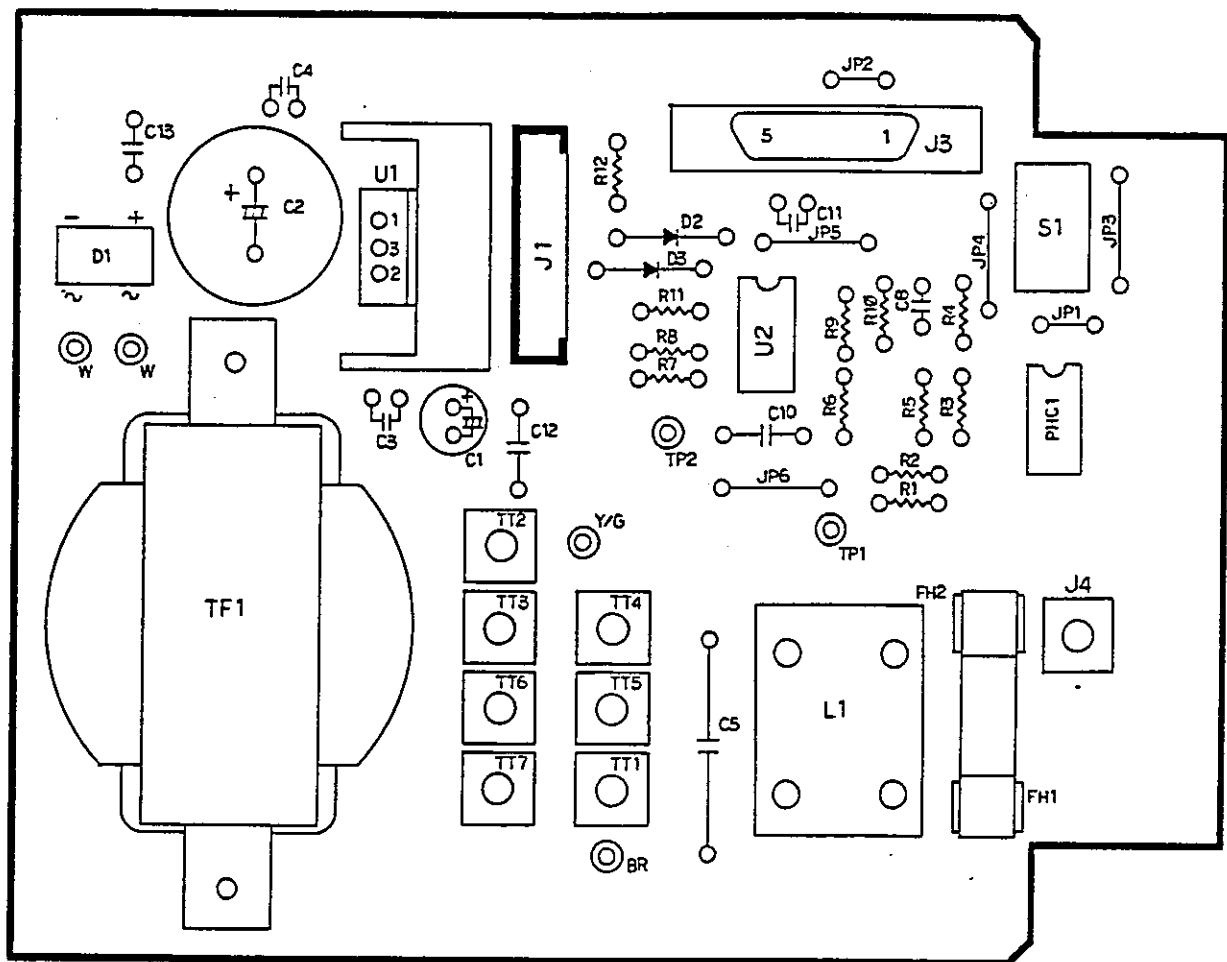


SIDE A



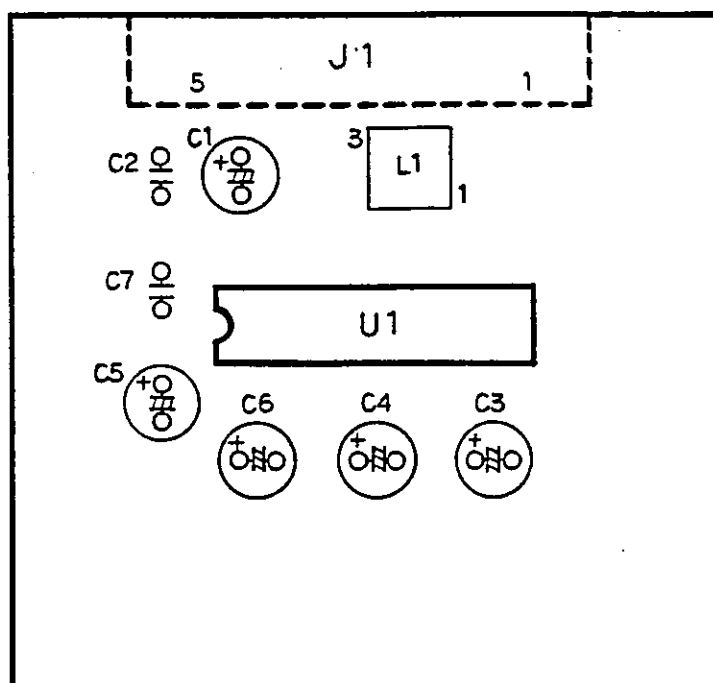
SIDE B

Model	AD4531A
Description	
Stock No	PZ:2702
Drwg. No	KZ2-00520F



Model	AD4531A
Description	
Stock No	PZ:2703
Drwg. No	KZ3-01164D

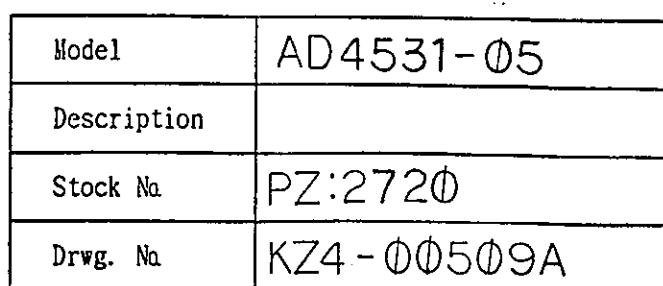
**A&D CO., LTD.**

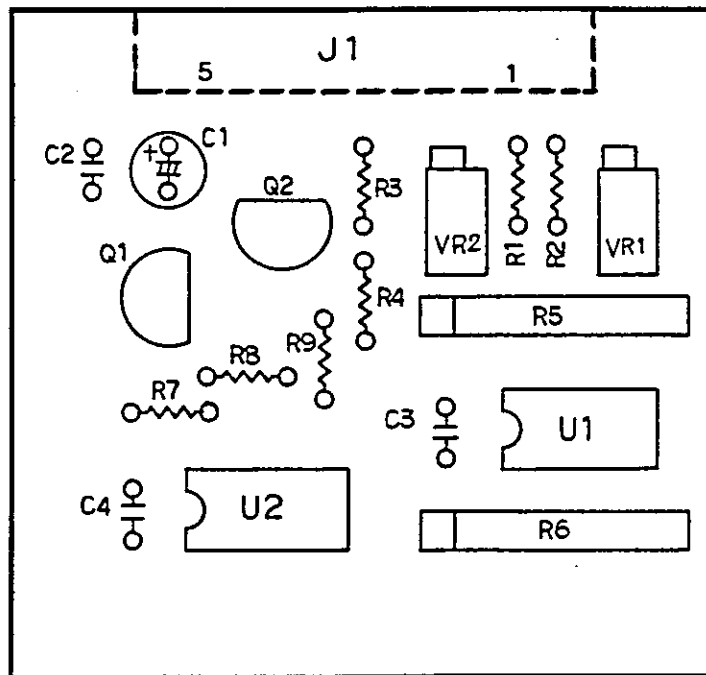


Model	AD4531-04
Description	
Stock No	PZ:2719
Drwg. No	KZ4-00508A

**A&D CO., LTD.**

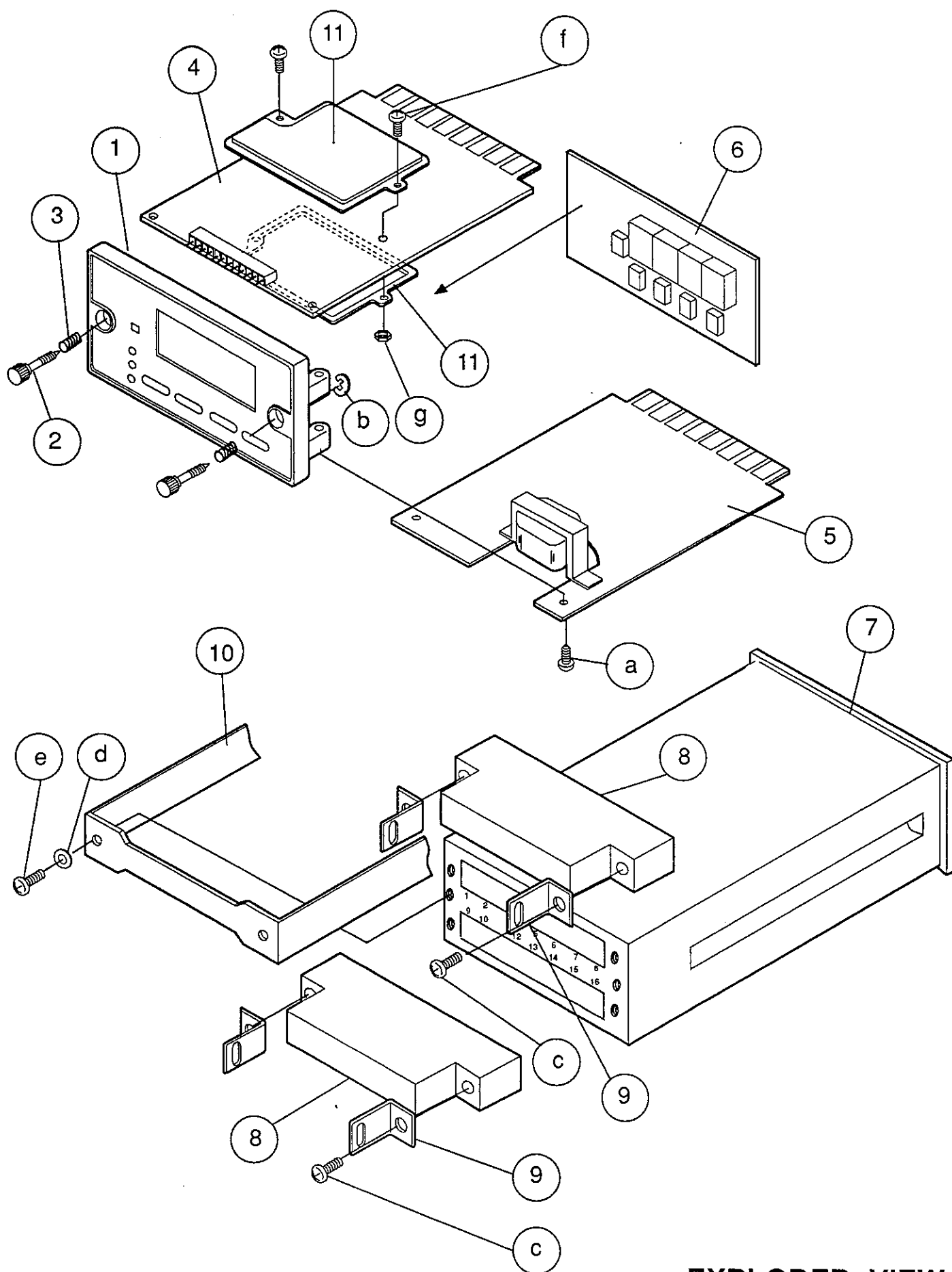






Model	AD4531-07
Description	
Stock No	PZ:2721
Drwg. No	KZ4-00510B

**A&D CO., LTD.**



**EXPLODED VIEW  
AD-4531A**

# A D - 4 5 3 1 A .

NO.	PARTS NAME	DESCRIPTION
1	07:B30856	FRONT PANEL
2	05:C42737	LOCK SCREW
3	00:C41845	LOCK SPRING
4	PZ:2702	MAIN BOARD
5	PZ:2703	BATTERY BOARD
6	PZ:2701	DISPLAY BOARD
7	07:A21543	CASE
8	TM:F5009-8P	TERMINAL
9	04:C41098	TERMINAL PARTS
10	04:C42738	U LOCK
11	04:C41732	SHIELD CASE
a		TAPPING SCREW M3×8
b		E RING
c		BINDING HEAD M3×12
d		NYLON WASHER M4
e		TRUSS HEAD M4×12
f		PAN HEAD WITH WASHER M3×6
g		NAT M3

MEMORANDA

[illegible]