

# AD-4327A/B

## WEIGHING INDICATOR

### TECHNICAL INFORMATION

Tech-AD-4327A/B-v.1.a 94/10/26 HYM

**AD-4327A**  
**AD-4327B**

# Contents

## Electronic Circuit Parts List

|               |                         |
|---------------|-------------------------|
| 7PZ:2678-MAIN | Main Board              |
| 7PZ:2678-OPT  | Option Connector Board  |
| 7PZ:2678-PS   | Power Supply Board      |
| 7PZ:2678-TERM | Terminal Board          |
| 7PZ:2735      | RS232C and Relay output |
| 7PZ:2735A     | Current Loop            |
| 7PZ:2735B     | RS232C                  |

## Electronic Circuit Diagram

|          |                         |
|----------|-------------------------|
| PZ:2678  | Main Board              |
| PZ:2735  | RS232C and Relay output |
| PZ:2735A | Current Loop            |
| PZ:2735B | RS232C                  |

## Board Component Location

|              |                         |
|--------------|-------------------------|
| PZ:2678-MAIN | Main Board              |
| PZ:2678-OPT  | Option Connector Board  |
| PZ:2678-PS   | Power Supply Board      |
| PZ:2678-TERM | Terminal Board          |
| PZ:2735      | RS232C and Relay output |
| PZ:2735A     | Current Loop            |
| PZ:2735B     | RS232C                  |

## Exploded View

VIEW-1  
VIEW-2

# PART LIST

| 7 P Z : 2 6 7 8 - M A I N  |   |   |                        |
|--|---|---|------------------------|
| CIRCUIT SYMBOL   | PARTS NAME  | DESCRIPTION   | Q' TY                  |
| C3, 7, 44<br>C5, 6, 9, 10, 12, 15~17, 20<br>C45~48<br>D2~17        | PC : 2 6 7 8 D<br>CC : 0. 0 1 U T<br>CC : 0. 1 U 2 5 V T<br>CC : 3 3 0 P T<br>DI : 1 S S 2 7 0 T                                    | PRINTED CIRCUIT BOARD<br>CAPACITOR 0.01 $\mu$ F 50V<br>CAPACITOR 0.1 $\mu$ F 25V<br>CAPACITOR 330pF<br>DIODE  | 1<br>3<br>9<br>4<br>16 |
| LED2<br>LED3<br>LED1<br>BZ1<br>J7                                  | DL : P G 5 5 5 3 K Y<br>DL : P R 5 5 5 3 K<br>DL : P Y 5 5 5 3 K<br>ET : M E B - 1 2 C - 5<br>JI : 0 7 P - S 2 L 2 - E F            | LED GREEN<br>LED RED<br>LED YELLOW<br>MICRO BUZZER<br>CONNECTOR   | 1<br>1<br>1<br>1<br>1  |
| J2<br>J4<br>J3<br>Q1, 2  | JI : 9 P - S 2 L 2 - E F<br>JT : 1 7 4 0 7 4 - 6<br>JT : 1 7 4 0 7 4 - 9<br>KB : 1 2 6 0 1 5 G N 7 7<br>QT : B A 1 A 4 P T          | CONNECTOR<br>CONNECTOR<br>CONNECTOR<br>WIRE<br>TRANSISTOR BA1A4P  | 1<br>1<br>1<br>1<br>2  |
| Q3, 6<br>R11, 12, 14, 31, 33<br>R8, 34<br>R6, 18, 27~29<br>R25, 26 | QT : B N 1 A 4 P T<br>RC : N A T 1. 5 K J T<br>RC : N A T 1 0 K J T<br>RC : N A T 2. 7 K J T<br>RC : N A T 2 7 0 R J T              | TRANSISTOR BN1A4P<br>RESISTOR 1.5K $\Omega$ 1/4W<br>RESISTOR 10K $\Omega$ 1/4W<br>RESISTOR 2.7K $\Omega$ 1/4W<br>RESISTOR 270 $\Omega$ 1/4W               | 2<br>5<br>2<br>5<br>2  |
| R1<br>R7, 9, 10, 32<br>R15<br>R16, 17<br>R2                        | RC : N A T 5. 6 K J T<br>RC : N A T 5 6 K J T<br>RC : N A T 8 2 0 R J T<br>RN : I H R - 4 - 2 2 3 M A<br>RN : I H R - 6 - 2 2 3 M A | RESISTOR 5.6K $\Omega$ 1/4W<br>RESISTOR 56K $\Omega$ 1/4W<br>RESISTOR 820 $\Omega$ 1/4W<br>RESISTOR NETWORK 22K $\Omega$<br>RESISTOR NETWORK 22K $\Omega$ | 1<br>4<br>1<br>2<br>1  |
| S1~16<br>U2<br>U4<br>U3<br>U5                                      | SK : S K H H A K<br>UA : S - 8 0 5 4 A L B<br>UC : H C 0 2<br>UC : H C 7 4<br>UC : R P 9 3 C 4 6                                    | TACT SWITCH<br>VOLTAGE COMPARATOR<br>HCMOS IC<br>HCMOS IC<br>EEPROM   | 16<br>1<br>1<br>1<br>1 |
| U1<br>X1   | UC : 4 7 C 8 2 0 Z - N 9 7 7<br>XT : K B R 4. 9 1 M K S T F<br>MF : A M Z 4 1<br>0 4 : B 4 7 7 9 8<br>0 6 : B 4 2 0 7 1             | CPU<br>CERAMIC OSC<br>AD MODULE<br>TERMINAL<br>SPACER   | 1<br>1<br>1<br>2<br>1  |
|  | 0 6 : B 4 7 6 3 3   | PILLOW  | 3                      |

# PARTS LIST

| 7 P Z : 2 6 7 8 - O P T |  |  |        |
|-------------------------|--|--|--------|
| CIRCUIT SYMBOL          | PARTS NAME                             | DESCRIPTION                              | Q' TY  |
| J11                     | P C : 2 6 7 8 D<br>J A : T C S 5 3 8 0 | PRINTED CIRCUIT BOARD<br>CONNECTOR DIN8P | 1<br>1 |
|                         |  |  |        |

# PARTS LIST

7 P Z : 2 6 7 8 - P S

| 7 P Z : 2 6 7 8 - P S                                |  |  |                       |
|--|--|--|-----------------------|
| CIRCUIT SYMBOL                                       | PARTS NAME   | DESCRIPTION  | Q' TY                 |
| C22, 43, 44<br>C23, 24, 26, 29, 30, 32<br>C25<br>C34 | PC : 2 6 7 8 D<br>CC : 0 . 0 1 U T<br>CC : 0 . 1 U 2 5 V T<br>CK : S M E 1 0 V B 4 7<br>CK : S M E 2 5 V B 1 0                 | PRINTED CIRCUIT BOARD<br>CAPACITOR 0.01 $\mu$ F 50V<br>CAPACITOR 0.1 $\mu$ F 25V<br>CAPACITOR 10 $\mu$ F 25V<br>CAPACITOR 10 $\mu$ F 25V | 1<br>3<br>6<br>1<br>1 |
| C28<br>C27, 31<br>HT1<br>J6<br>J1                    | CK : S X E 2 5 V B 4 7 0 L<br>CT : 1 V 0 1 0 T<br>HT : 6 0 7 3 P B<br>JE : 0 4 8 6 - 0 1 - 0 1 0<br>JI : 0 9 P - S 2 T 2 - E F | CAPACITOR 470 $\mu$ F 25V<br>CAPACITOR 1 $\mu$ F 35V<br>HEAT SINK<br>CONNECTOR<br>CONNECTOR  | 1<br>2<br>1<br>1<br>1 |
| NF1<br>Q4<br>Q5<br>R22, 24<br>R19                    | NF : E X C E M T 1 0 3 D T<br>QT : A 1 0 1 5 Y T<br>QT : A 1 0 2 0 Y T<br>RC : N A T 1 . 5 K J T<br>RC : N A T 2 7 0 R J T     | EMI FILTER<br>TRANSISTOR 2SA1015Y<br>TRANSISTOR 2SA1020Y<br>RESISTOR 1.5K $\Omega$ 1/4W<br>RESISTOR 270 $\Omega$ 1/4W                    | 1<br>1<br>1<br>2<br>1 |
| R20<br>R21<br>S17<br>U7                              | RC : N A T 5 . 6 K J T<br>RC : N A T 5 6 K J T<br>SK : T M 1 - 0 1 / 0 0 1 0<br>UR : 2 4 M 0 5 H F                             | RESISTOR 5.6K $\Omega$ 1/4W<br>RESISTOR 56K $\Omega$ 1/4W<br>KEY SWITCH<br>VOLTAGE REGULATOR   | 1<br>1<br>1<br>1      |
|  |  |  |                       |

# PARTS LIST

7 P Z : 2 6 7 8 - T E R M

| CIRCUIT SYMBOL  | PARTS NAME   | DESCRIPTION  | Q' TY            |
|-----------------|--|--|------------------|
| J8<br>KB1<br>J9 | PC : 2678D<br>JI : 07P-S2L2-EF<br>KB : 126015GN77<br>TM : F2302AX-7P | PRINTED CIRCUIT BOARD<br>CONNECTOR<br>WIRE<br>TERMINAL | 1<br>1<br>1<br>1 |
|                 |  |  |                  |

# PARTS LIST

| 7 P Z : 2 7 3 5   |  |  |                            |
|---|--|--|----------------------------|
| CIRCUIT SYMBOL  | PARTS NAME   | DESCRIPTION  | Q' TY                      |
| C2, 3, 4, 11, 12<br>C10<br>C5, 6, 7, 8, 9<br>C1                           | PC : 2 7 3 5 A<br>CC : 0. 1 U 2 5 V - C<br>CC : 1 0 0 P - C<br>CT : 1 D 1 0 6 - C<br>CT : 1 V 0 1 0 - C                                    | PRINTED CIRCUIT BOARD<br>CAPACITOR 0.1 $\mu$ F 25V<br>CAPACITOR 100pF<br>CAPACITOR 10 $\mu$ F 20V<br>CAPACITOR 1 $\mu$ F 35V | 1<br>5<br>1<br>5<br>1      |
| PHC1, 2, 3<br>J2<br>J1<br>Q1, 2, 3<br>R14                                 | DF : A Q V 2 5 3<br>JT : 1 7 4 1 6 1 - 6<br>JT : 1 7 4 1 6 1 - 9<br>QT : C 2 7 1 2 Y - C<br>RC : 1 / 1 0 W 0                               | PHOTO MOS RELAY<br>CONNECTOR<br>CONNECTOR<br>TRANSISTOR 2SC2712-Y<br>JUMPER (RESISTOR 0 $\Omega$ )                           | 3<br>1<br>1<br>3<br>1      |
| R1, 2, 4, 5, 7, 8, 10, 11, 12<br>19, 20, 21<br>R3, 6, 9<br>U2<br>U1<br>U3 | RC : 1 / 1 0 W 1 0 3 J<br><br>RC : 1 / 1 0 W 1 5 2 J<br>UA : M B 3 7 7 3 P S - G<br>UC : D 7 8 C P 1 4 - 4 3 2 6<br>UC : M A X 2 3 2 C W E | RESISTOR 10K $\Omega$ 1/10W<br><br>RESISTOR 1.5K $\Omega$ 1/10W<br>VOLTAGE COMPARATOR<br>CPU<br>RS232C                       | 12<br><br>3<br>1<br>1<br>1 |
| X1  | XT : C 4 C B - 7. 3 7 M<br>0 2 : B 4 7 9 6 8   | OSC<br>BOARD CHASSIS   | 1<br>1                     |
|   |  |  |                            |

## PARTS LIST

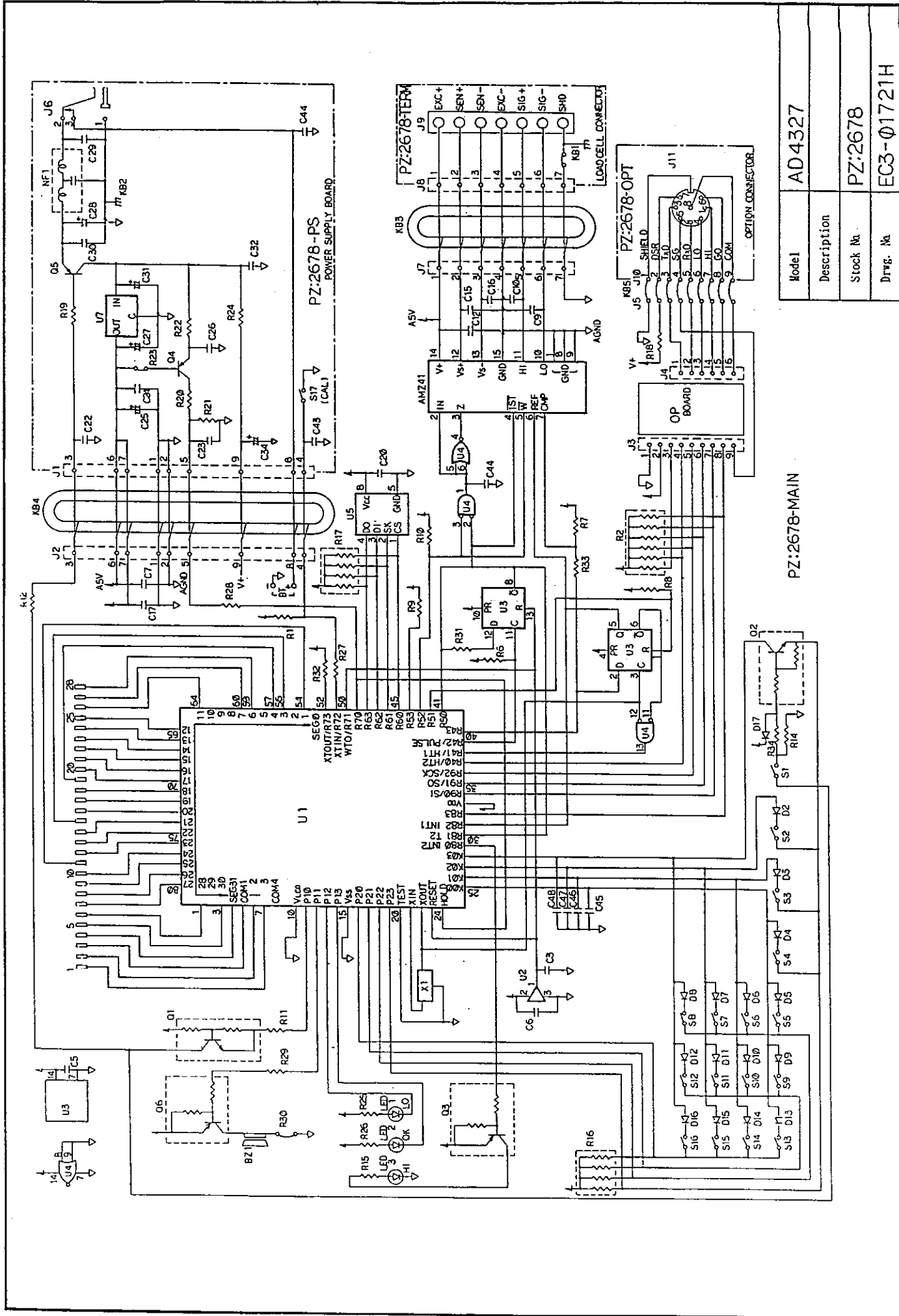
7 P Z : 2 7 3 5 A

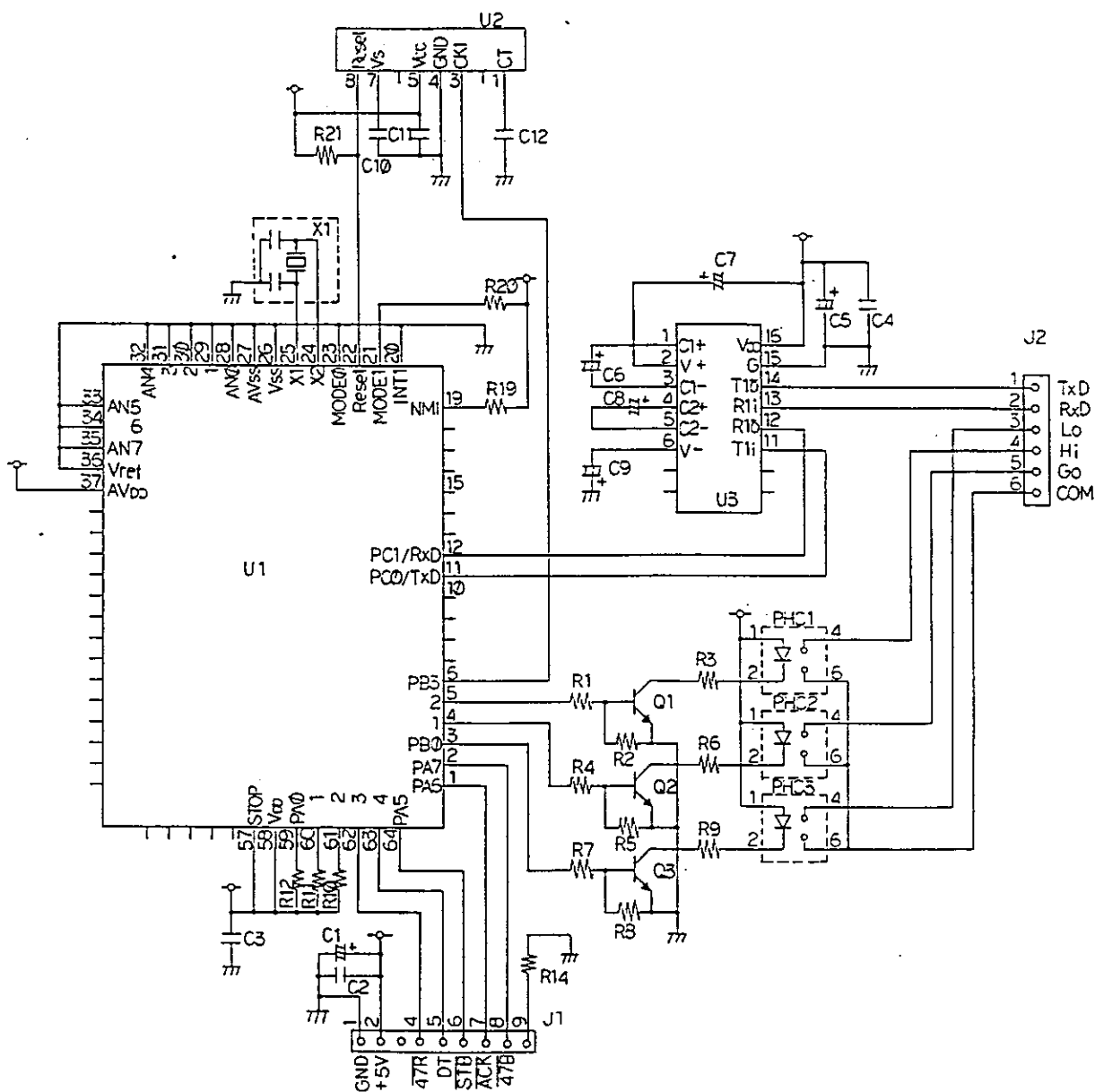
| 7 P Z : 2 7 3 5 A                            |  |   |                       |
|--|--|---|-----------------------|
| CIRCUIT SYMBOL                               | PARTS NAME   | DESCRIPTION   | Q' TY                 |
| C2, 3, 11, 12<br>C10<br>C1<br>PHC4           | PC : 2 7 3 5 A<br>CC : 0. 1 U 2 5 V - C<br>CC : 1 0 0 P - C<br>CT : 1 V 0 1 0 - C<br>DF : P S 2 5 0 1 - 1 L / K            | PRINTED CIRCUIT BOARD<br>CAPACITOR 0.1 $\mu$ F 25V<br>CAPACITOR 100pF<br>CAPACITOR 1 $\mu$ F 35V<br>PHOTO CUPPLER                                 | 1<br>4<br>1<br>1<br>1 |
| D2<br>D1<br>J2<br>J1<br>Q4.5                 | DI : 1 S S 1 8 1 - C<br>DI : 1 S S 1 8 4 - C<br>JT : 1 7 4 1 6 1 - 6<br>JT : 1 7 4 1 6 1 - 9<br>QT : C 2 7 1 2 Y - C       | DIODE<br>DIODE<br>CONNECTOR<br>CONNECTOR<br>TRANSISTOR 2SC2712-Y  | 1<br>1<br>1<br>1<br>2 |
| R15<br>R10~12, 17~21, 24<br>R16<br>R13<br>U2 | RC : 1 / 1 0 W 0<br>RC : 1 / 1 0 W 1 0 3 J<br>RC : 1 / 1 0 W 1 5 2 J<br>RC : 1 / 1 0 W 4 7 1 J<br>UA : M B 3 7 7 3 P S - G | JUMPER (RESISTOR 0 $\Omega$ )<br>RESISTOR 10K $\Omega$ 1/10W<br>RESISTOR 1.5K $\Omega$ 1/10W<br>RESISTOR 470 $\Omega$ 1/10W<br>VOLTAGE COMPARATOR | 1<br>9<br>1<br>1<br>1 |
| U1<br>X1                                     | UC : D 7 8 C P 1 4 - 4 3 2 6<br>XT : C 4 C B - 7. 3 7 M<br>0 2 : B 4 7 9 6 8   | CPU<br>OSC<br>BOARD CHASSIS   | 1<br>1<br>1           |
|  |  |   |                       |



# PARTS LIST

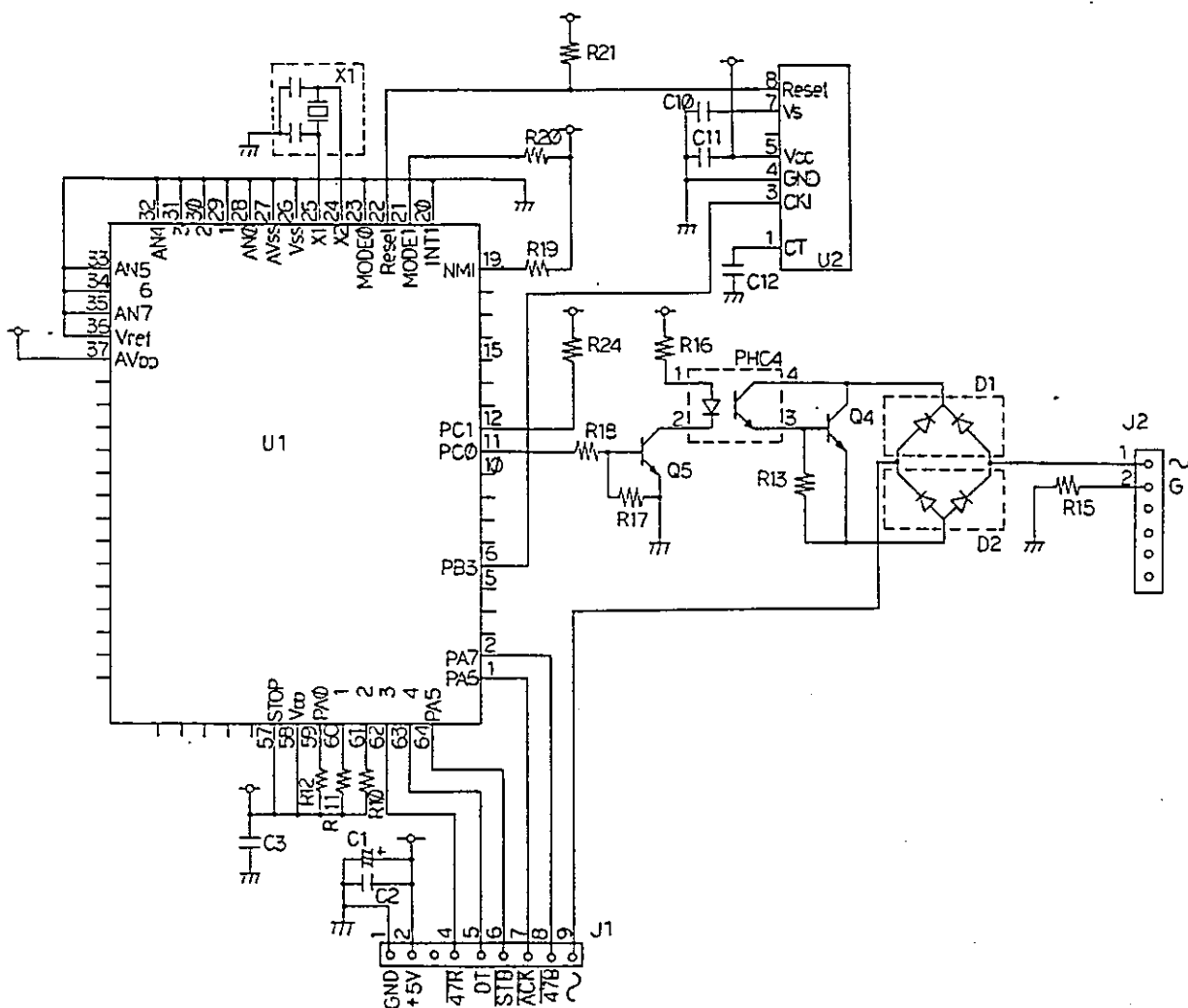
| 7 P Z : 2 7 3 5 B                               |   |  |                       |
|---|---|--|-----------------------|
| CIRCUIT SYMBOL                                  | PARTS NAME  | DESCRIPTION  | Q' TY                 |
| C2, 3, 4, 11, 12<br>C10<br>C5, 6, 7, 8, 9<br>C1 | PC : 2 7 3 5 A<br>CC : 0. 1 U 2 5 V - C<br>CC : 1 0 0 P - C<br>CT : 1 D 1 0 6 - C<br>CT : 1 V 0 1 0 - C               | PRINTED CIRCUIT BOARD<br>CAPACITOR 0.1 $\mu$ F 25V<br>CAPACITOR 100pF<br>CAPACITOR 10 $\mu$ F 20V<br>CAPACITOR 1 $\mu$ F 35V | 1<br>5<br>1<br>5<br>1 |
| J2<br>J1<br>R14<br>R10~12, 19~21<br>U2          | JT : 1 7 4 1 6 1 - 6<br>JT : 1 7 4 1 6 1 - 9<br>RC : 1 / 1 0 W 0<br>RC : 1 / 1 0 W 1 0 3 J<br>UA : MB 3 7 7 3 P S - G | CONNECTOR<br>CONNECTOR<br>JUMPER (RESISTOR 0 $\Omega$ )<br>RESISTOR 10K $\Omega$ 1/10W<br>VOLTAGE COMPARATOR                 | 1<br>1<br>1<br>6<br>1 |
| U1<br>U3<br>X1                                  | UC : D 7 8 C P 1 4 - 4 3 2 6<br>UC : MAX 2 3 2 C W E<br>XT : C 4 C B - 7. 3 7 M<br>0 2 : B 4 7 9 6 8                  | CPU<br>RS232C<br>OSC<br>BOARD CHASSIS  | 1<br>1<br>1<br>1      |
|   |   |  |                       |





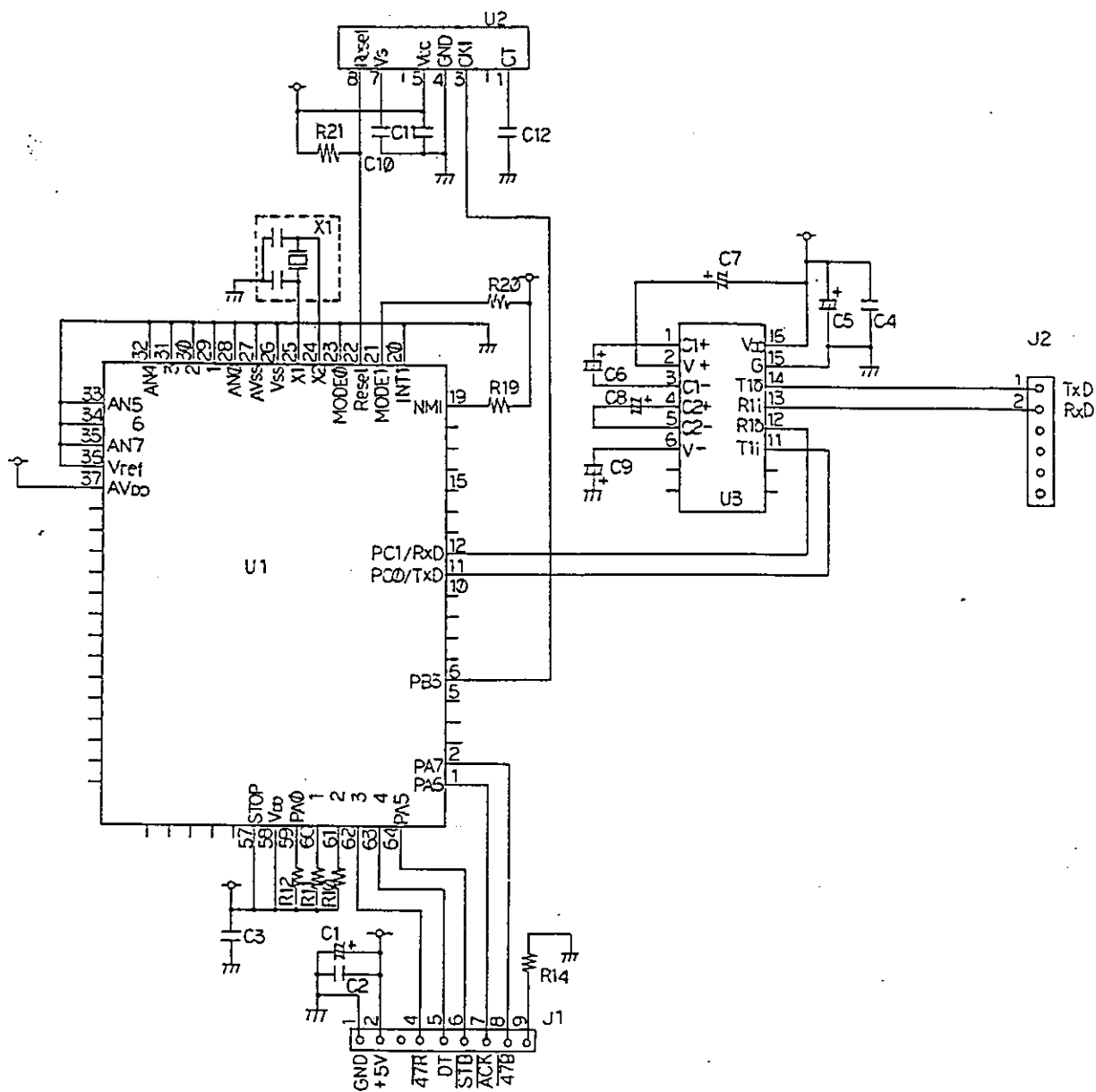
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|-------------|-----------|
| Model       | AD4327-04 |
| Description |           |
| Stock No    | PZ:2735   |
| Drwg. No    | EC4-00296 |

A&D CO., LTD.



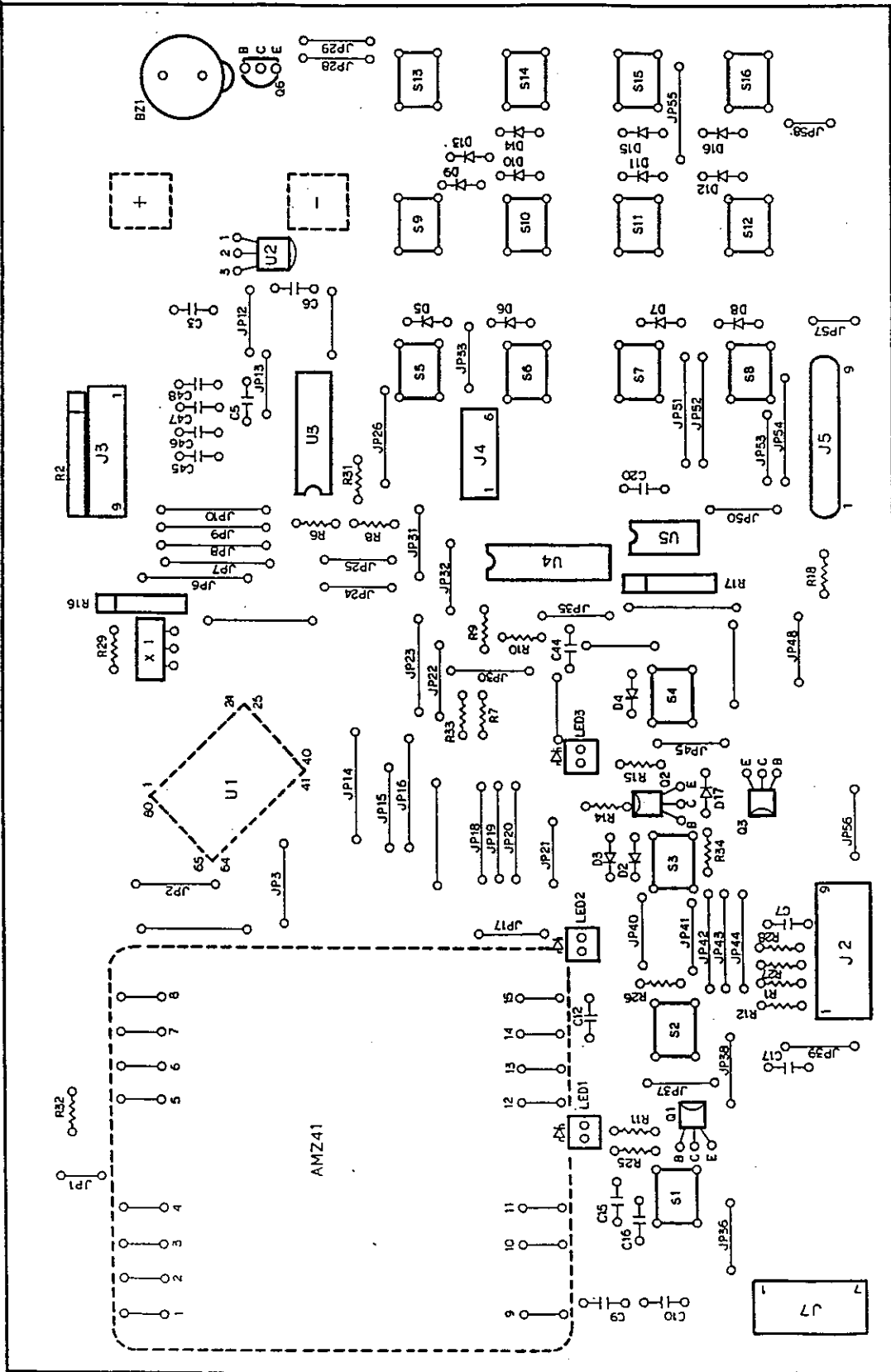
|             |           |
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| Model       | AD4327-05 |
| Description |           |
| Stock No.   | PZ:2735A  |
| Drwg. No.   | EC4-00297 |

A&D CO., LTD.

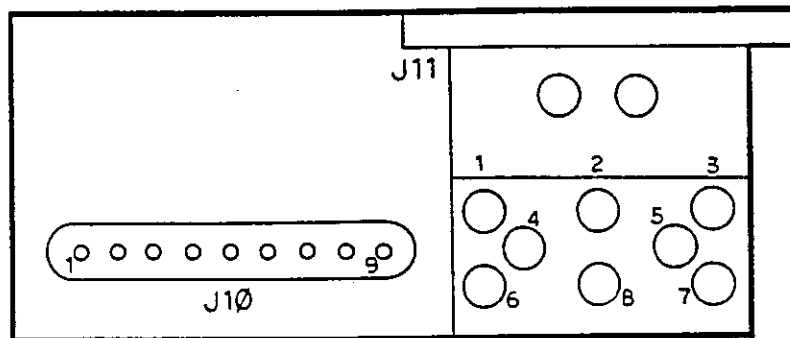


|             |           |
|-------------|-----------|
| Model       | AD4327-03 |
| Description |           |
| Stock No.   | PZ 2735B  |
| Drwg. No.   | EC4-00295 |

A&D CO., LTD.

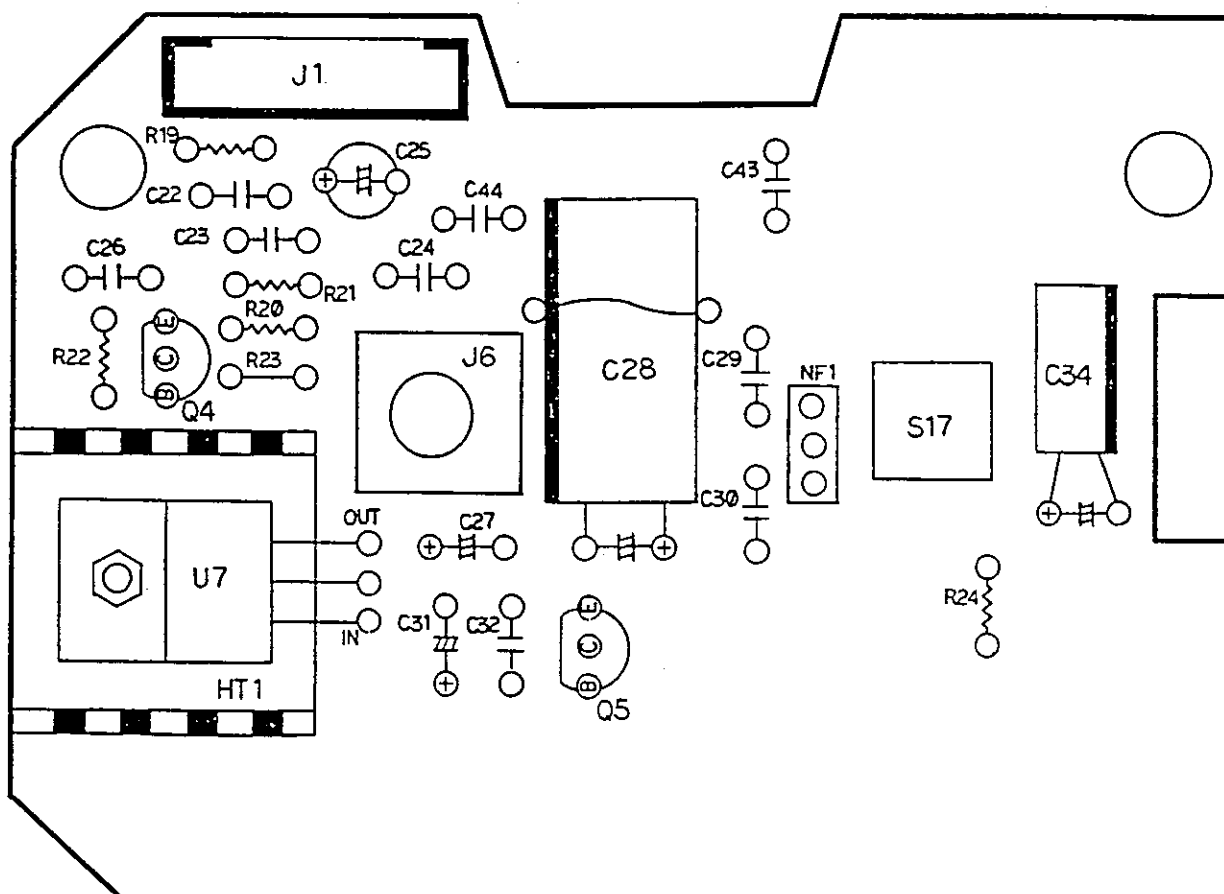


|             |              |
|-------------|--------------|
| Model       | AD4327       |
| Description |              |
| Stock No.   | PZ:2678-MAIN |
| Drwg. No.   | KZ2-00522F   |



|             |               |
|-------------|---------------|
| Model       | AD4327        |
| Description |               |
| Stock No.   | PZ:2678 - OPT |
| Drwg. No.   | KZ2-00522F    |

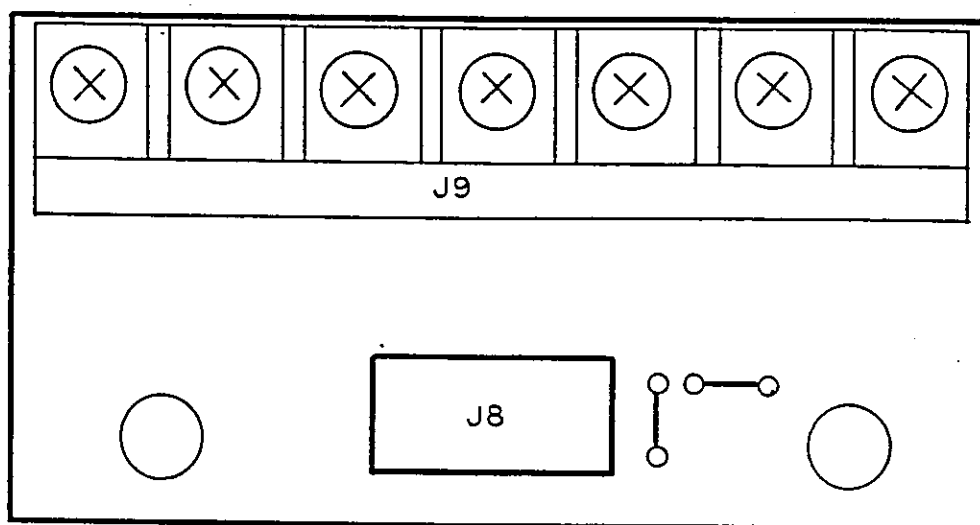
**A&D CO., LTD.**



|             |              |
|-------------|--------------|
| Model       | AD4327       |
| Description |              |
| Stock No.   | PZ:2678 - PS |
| Drwg. No.   | KZ2-00522F   |

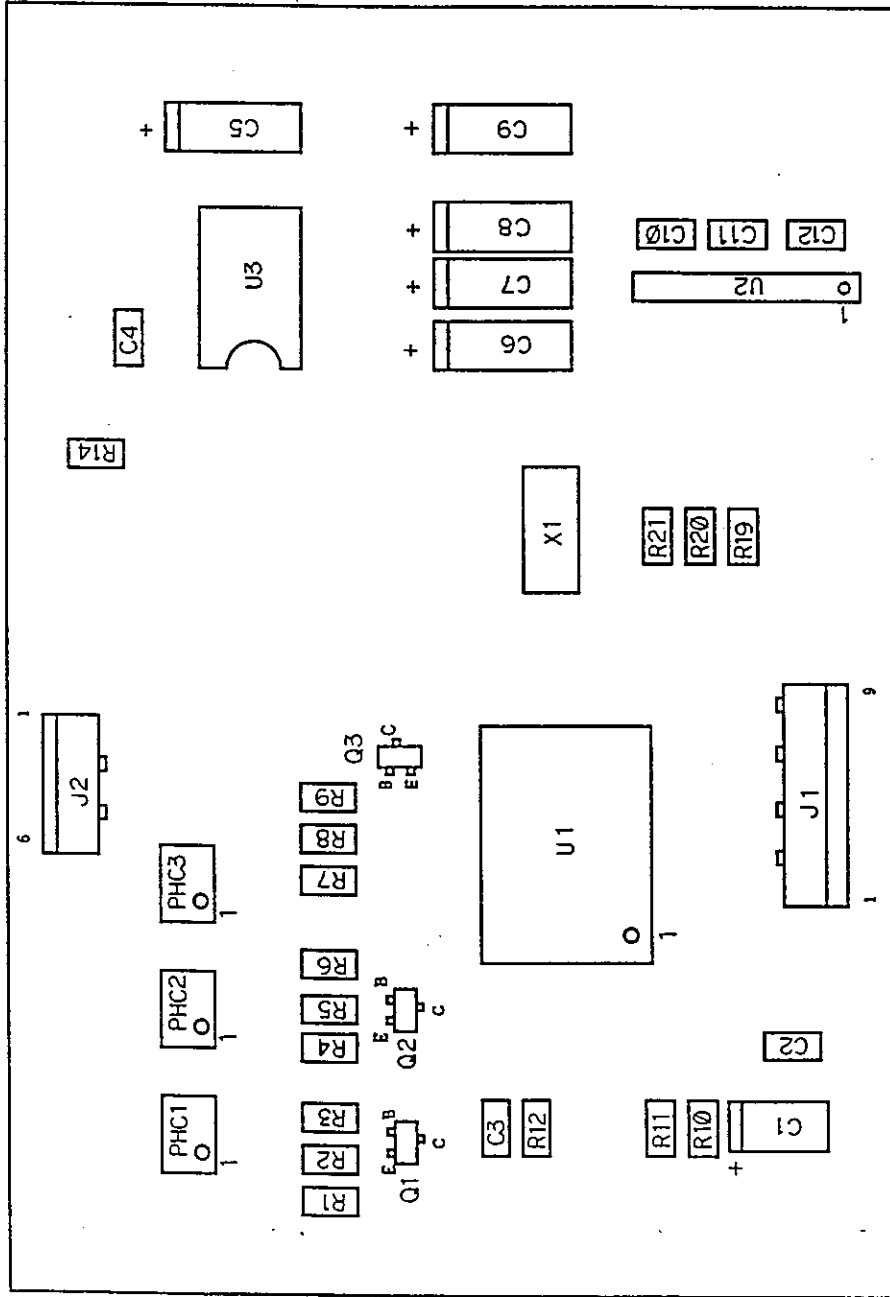
A&D CO., LTD.



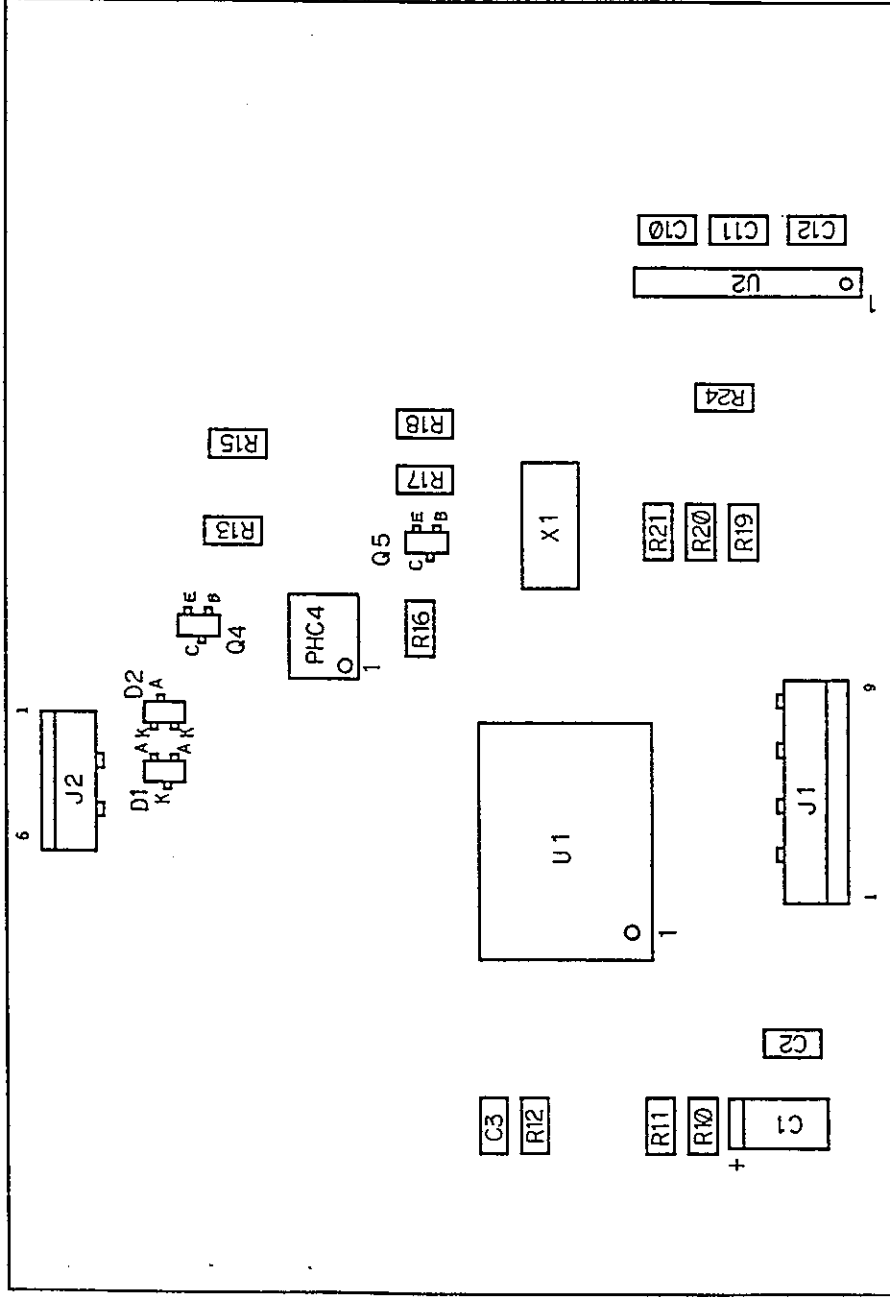


|             |               |
|-------------|---------------|
| Model       | AD4327        |
| Description |               |
| Stock No    | PZ:2678 -TERM |
| Drwg. No    | KZ2-00522F    |

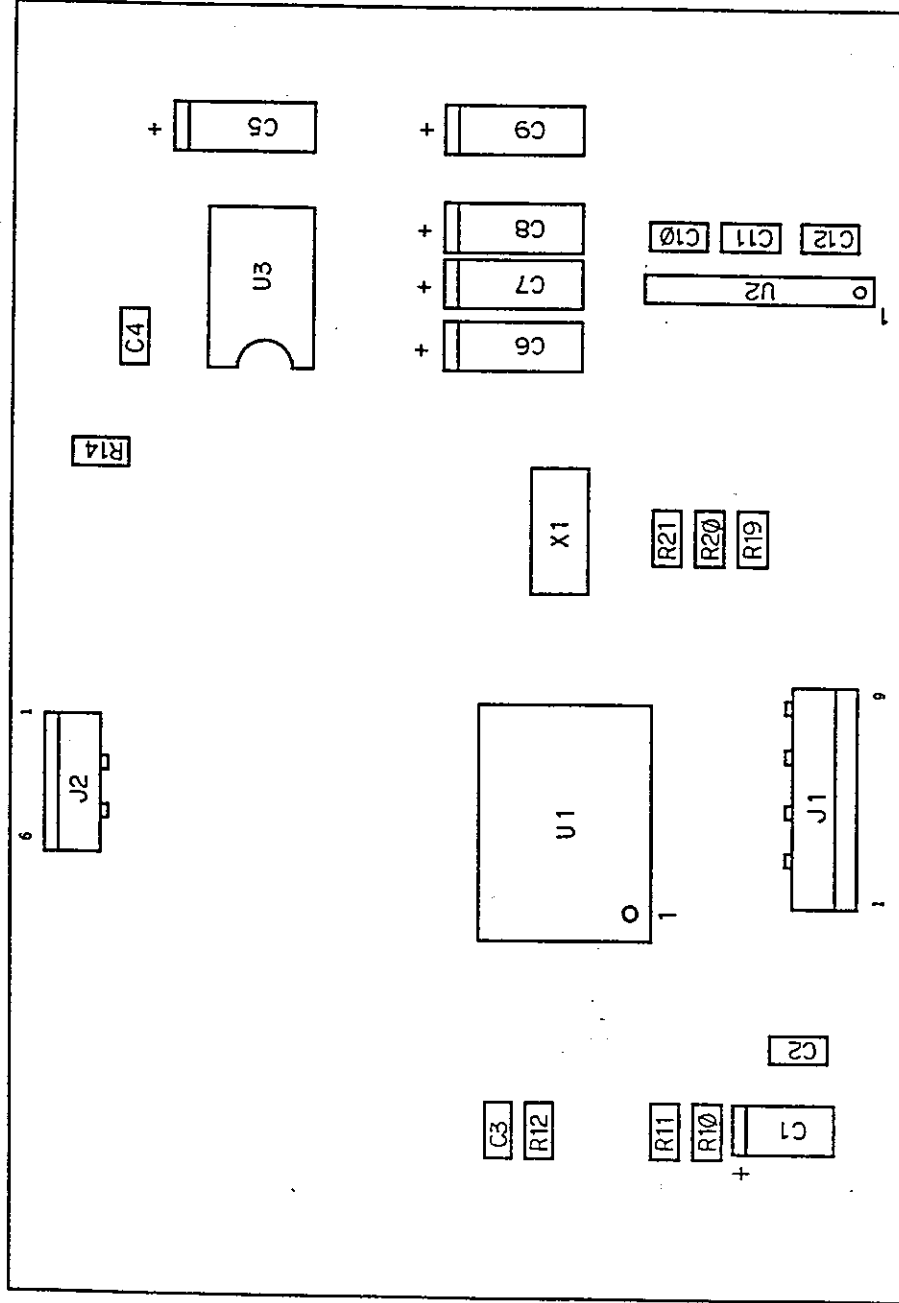
A&D CO., LTD.



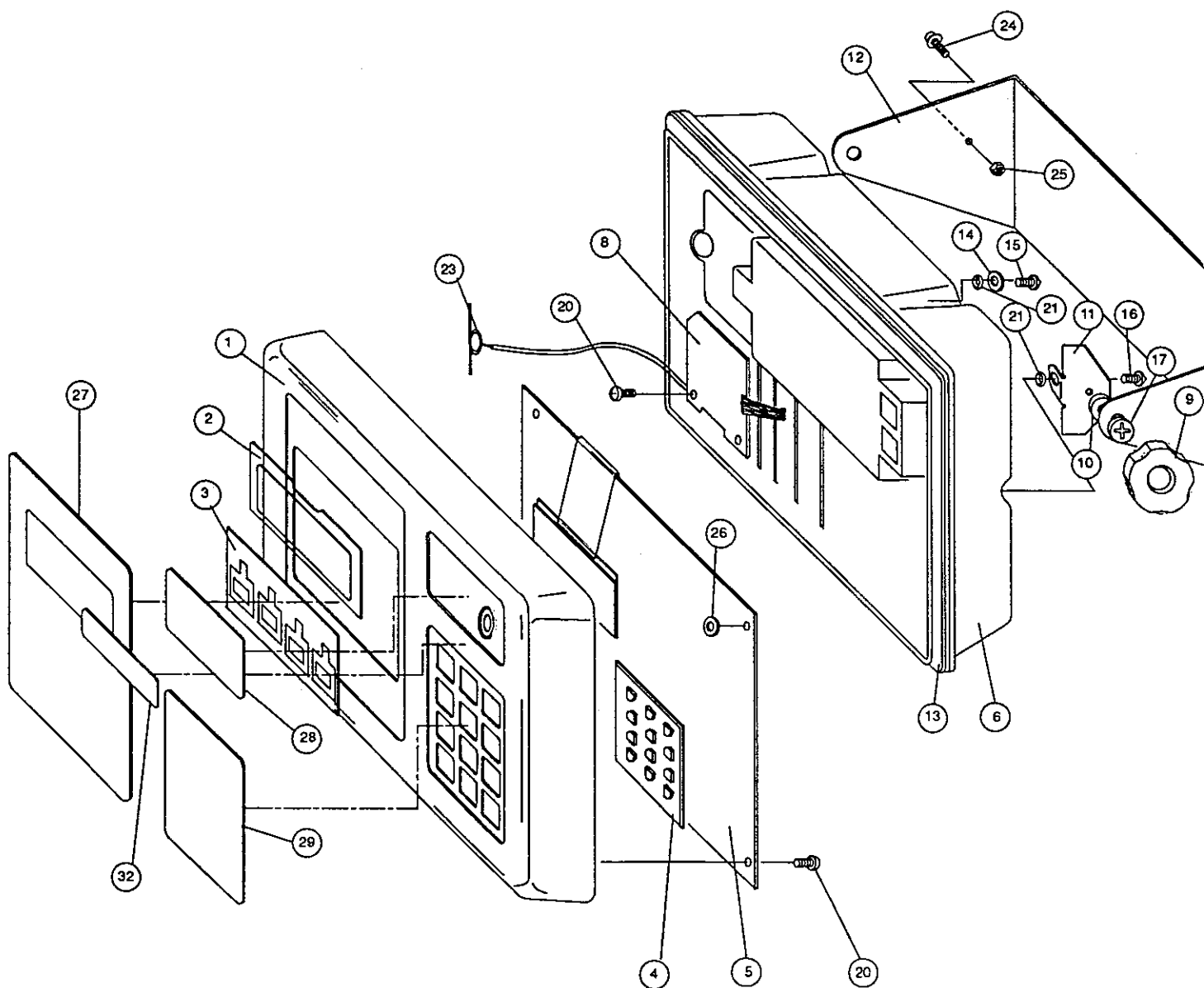
|             |           |
|-------------|-----------|
| Model       | AD4327-04 |
| Description |           |
| Stock No.   | PZ:2735   |
| Drwg. No.   | KZ3-01186 |



|             |           |
|-------------|-----------|
| Model       | AD4327-05 |
| Description |           |
| Stock No.   | PZ:2735A  |
| Drwg. No.   | KZ3-01187 |



|             |           |
|-------------|-----------|
| Model       | AD4327-03 |
| Description |           |
| Stock No.   | PZ:2735B  |
| Drwg. No.   | KZ3-01185 |

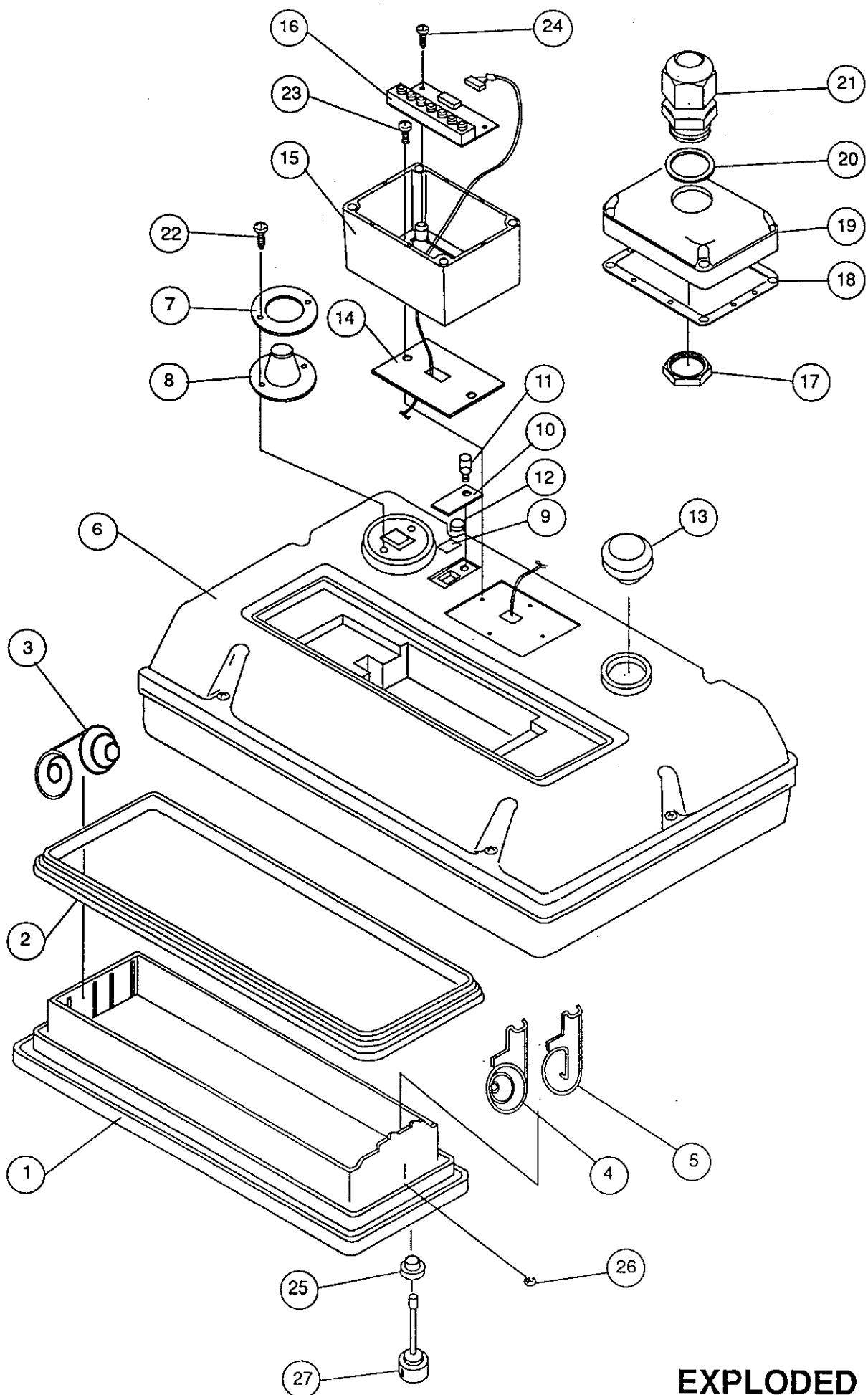


**EXPLODED VIEW-1**  
**AD-4327A/B**

AD-4327A/B

## Exploded view - 1

| NO. | PARTS NAME    | DESCRIPTION                 |
|-----|---------------|-----------------------------|
| 1   | 09:A21336     | UPPER CASE UNIT             |
| 2   | 07:C40594A    | DISPLAY FILTER              |
| 3   | 07:B30229A    | SWITCH                      |
| 4   | 07:B30230     | KEY BOARD                   |
| 5   | PZ:2678       | MAIN BOARD                  |
| 6   | 07:A10179B    | LOWER CASE                  |
| 7   |               |                             |
| 8   | PZ:2678       | BATTERY BOARD               |
| 9   | 10:SK-34      | KNOB                        |
| 10  | 06:C41517A    | DAMPER                      |
| 11  | 06:C41514A    | ARM                         |
| 12  | 04:C41715A    | HOLDER ARM                  |
| 13  | 06:B47795A    | UPPRE CASE SEAL             |
| 14  |               | NYLON WASHER M3             |
| 15  |               | BINDING HEAD M3×10          |
| 16  |               | PAN HEAD M3×12              |
| 17  | SPN-6         | PUSH NAT M6                 |
| 18  |               |                             |
| 19  |               |                             |
| 20  |               | PAN HEAD TAPPING SCREW M3×8 |
| 21  | 10:ORINGP3NBR | O RING                      |
| 22  |               | HEXAGON BOLT M6×15          |
| 23  | 04:C42861A    | GROUND SPRING               |
| 24  | 07:4001032    | WASHER                      |
| 25  |               | NAT M3                      |
| 26  | 07:4001032    | WASHER                      |
| 27  | 08:B31446B    | DISPLAY SHEET FOR 4327A     |
| 27  | 08:B31447B    | DISPLAY SHEET FOR 4327B     |
| 28  | 08:C42671     | CAPACITY LABEL              |
| 29  | 08:C42674A    | KEY SHEET FOR 4327A         |
| 29  | 08:C42676A    | KEY SHEET FOR 4327B         |
| 30  |               |                             |
| 31  |               |                             |
| 32  | 08:C42762     | CAPACITY SHEEL              |



**EXPLODED VIEW-2**  
**AD-4327A/B**

## Exploded view - 2

| NO. | PARTS NAME  | DESCRIPTION                  |
|-----|-------------|------------------------------|
| 1   | 07:A21337A  | BATTERY BOX                  |
| 2   | 06:B47794A  | BATTERY BOX SEAL             |
| 3   | 04:B47799   | TWIN COIL SPRING             |
| 4   | 04:B47801A  | COIL SPRING (-)              |
| 5   | 04:B47800A  | COIL SPRING (+)              |
| 6   | 07:A10179B  | LOWER CASE                   |
| 7   | 04:B47787   | BOOT RET PLATE               |
| 8   | 06:A38823   | CABLE BOARD                  |
| 9   | 08:B47788B  | CAL SW SEAL                  |
| 10  | 04:B47785A  | CAL SW COVER                 |
| 11  | 05:B46327B  | SEALING SCREW-S              |
| 12  | 05:B47791A  | SEALIG SCREW-L               |
| 13  | 06:B47793   | CAP                          |
| 14  | 06:C41946   | BASE PACKING                 |
| 15  | 07:B30985   | TERMINAL CASE                |
| 16  | PZ:2678     | TERMINAL BOARD               |
| 17  | 10:SM-11    | SCREW FOR ST-11              |
| 18  | 06:C41945-2 | WATER RESIST PACKING         |
| 19  | 07:B30984A  | TERMINAL COVER               |
| 20  | 10:GP-11    | PACKING FOR ST-11            |
| 21  | 10:ST-11    | WATER RESIST CABLE CLAMP     |
| 22  |             | PAN HEAD TAPPING SCREW M3×10 |
| 23  |             | TRUSS HEAD M4×10             |
| 24  |             | PAN HEAD TAPPING SCREW M3×8  |
| 25  | 06:C40242   | BATT BOX S/C SEAL            |
| 26  |             | E RING M3                    |
| 27  | 05:B47790   | BATT BOX S/C                 |



