# HX SERIES

# MAINTENANCE MANUAL

Maintenance-HX-series-v.1.a 92.09.28.

## ELECTRONIC BALANCES

MODELS
HX-100
HX-400
HX-3000
HX-6000

A&D Company, Limited

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# Compliance with FCC Rules

Please note that this equipment generates, uses and can radiate radio frequency energy. This equipment has been tested and has been found to comply with the limits of a Class A computing device pursuant to Subpart J of Part 15 of FCC rules. These rules are designed to provide reasonable protection against interference when equipment is operated in a commercial environment. If this unit is operated in a residential area it might cause some interference and under these circumstances the user would be required to take, at his own expense, whatever measures are necessary to eliminate the interference.

(FCC = Federal Communications Commission in the U.S.A.

# 1. INTRODUCTION

For smooth maintenance, the products must be technically understood, and the required equipment and tools must be prepared. Since the HX series electronic balance is a precision balance, the proper operation cannot be guaranteed if the maintenance is performed under the unsatisfactory conditions.

## 1.1 Equipment and Tools Required

| Standard | Description |
|---|---|
| Phillips screwdriver 3 mm | For disassembly and reassembly |
| Posidrive screwdriver | For adjusting the counter weight |
| Flat bladed screwdriver | For disassembly and reassembly |
| Adhesive tape 8 mm | For cleaning |
| Mechanical alignment fixture | For disassembly and reassembly of the mechanical unit |
| Wrench (spanner), 8 mm | For cornerload adjustment |
| Wrench (spanner), 13 mm | For installation of the pan support leg |
| Wrench (spanner), 5.5 mm | For counter weight adjustment |
| Allen wrench, 3 mm | For mechanical unit repair |
| Allen wrench, 2.5 mm | For internal weight stopper installation |
| Allen wrench, 2 mm | For installation of the weld nut (motor unit) |
| Allen wrench, 2.5 mm | For repairing the cam and cam shaft (motor unit) |
| Round-nose chain pliers | For installing the lower case post & bottom parts |
| Soldering iron (25-40 W) | For soldering |
| Screw lock | For pan support receiver installation (HX400/3000/6000) |
| Weights | HX100: two 50 g, one 100 g (calibrated weight with correction factor)<br>HX400: two 200 g , one 400 g (calibrated weight with correction factor)<br>HX3000: one 1 kg , one 2 kg, one 2 kg (calibrated weight with correction factor)<br>HX6000: three 2 kg, one 5 kg |
| AC adapter<br>Multimeter<br>Oscilloscope | The adapter will be dependent on the area of use. See the Parts List for the proper adapter. |
| Temperature Controlled Room | A room where the temperature can be maintained at 10 ±1°C and 30 ±1°C for 8 hours or more. |

# 1.2 Corrective Maintenance Outline

| | |
|---|---|
| Test to locate defects | To perform the corrective maintenance, defects must be located and their cause determined.<br><br>One of the easiest ways to locate a defect is to perform an operation check replacing suspected components. |
| Corrective maintenance procedure | The corrective maintenance procedure is described by a flowchart.<br><br>With the flowchart and the trouble-shooting table, corrective maintenance activities can be performed. |
| Adjustment details | An adjustment procedure is described for each unit. |

# 2. PERFORMANCE TEST

Allow 8 hours warm-up prior to conducting the performance test.

## 2.1 Performance Test Procedure

Verify the following:

- External view (is the unit properly assembled and clean)
  The balance has been leveled using the bubble spirit level.
  The pan is level. (check for correct assembly)

- Functions

  1. Verify that each key functions correctly:

  a) ON/OFF key
  b) PRINT key
  c) SAMPLE key
  d) MODE key
  e) CAL key

  2. Verify that the following function correctly:

  a) The plus and minus indicators
  b) The decimal point indicators
  c) That a stable display is obtained.
  d) That the motor is driving smoothly and not making abnormal noise.
  e) External key inputs
  f) The RS-232C interface
  g) Selection of the weighing units
  h) Selection of four TAEL units

  Obtain the coefficient k by using a 100.000 g weight.
  Example:
  If 2.64557TL is displayed, obtain the coefficient by the following formula;

$$k = \frac{\text{g indication}}{\text{TL indication}} = \frac{100.000}{2.64557} = 37.799$$

| | Weight | | | | | | | | | | | | | Tail s | Tolerance of k |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Domestic | g | | % | | | | | | | | | | | | |
| Export, general | g | cnt | % | lb | oz | LO | Ozt | dwt | ct | mm | GN | t | | | |
| Metric | g | cnt | % | | | | | | | | | | | | |
| U.S.A. | g | cnt | % | lb | oz | LO | Ozt | dwt | ct | mm | GN | | | | |
| Netherlands | g | cnt | % | lb | oz | LO | Ozt | dwt | ct | mm | GN | | | | |
| Hong Kong, general | g | cnt | % | lb | oz | LO | Ozt | dwt | ct | mm | GN | | | TG | 37.798~37.800 |
| Hong Kong, jewelry | g | cnt | % | lb | oz | LO | Ozt | dwt | ct | mm | GN | | | TN | 37.491~37.429 |
| Singapore | g | cnt | % | lb | oz | LO | Ozt | dwt | ct | mm | GN | | | TS | 37.792~37.794 |
| Taiwan | g | cnt | % | lb | oz | LO | Ozt | dwt | ct | mm | GN | | | TT | 37.499~37.501 |
| Iran | g | cnt | % | | | | | | ct | | | t | M | | |
| India | g | cnt | % | lb | oz | LO | Ozt | dwt | ct | mm | GN | t | | | |
| Europe | g | cnt | % | lb | oz | LO | Ozt | dwt | ct | mm | GN | | | | |
| Australia | g | cnt | % | lb | oz | LO | Ozt | dwt | ct | mm | GN | | | | |
| U.K. | g | cnt | % | lb | oz | LO | Ozt | dwt | ct | mm | GN | | | | |

## 2.2 Test Details

### Internal weight repeatability

After automatic calibration, put the specified calibration mass on the pan and read the displayed value.

Repeat the test five times. If the difference between the values of all five tests and the true value are within the specifications, the tested balance passes the internal weight repeatability test.

| Unit type | Calibration mass used | Specifications |
|---|---|---|
| HX100 | 100g | Within ± 0.2 mg |
| HX400 | 400g | Within ± 2 mg |
| HX3000 | 3kg | Within ± 20 mg (one ± 30 mg error allowed) |
| HX6000 | 6kg | Within ± 200mg |

## Repeatability

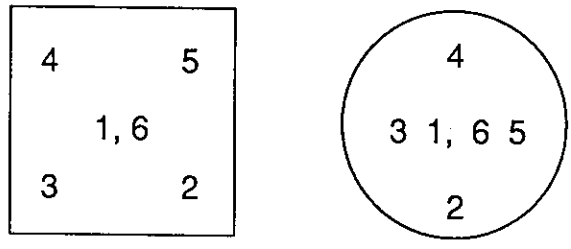
Alternately place and remove the calibration mass specified in the table below on the center of the pan and check the displayed values of the weight and zero point.

Perform three sets of tests consisting of five repetitions. If two of the test results are within specifications, the balance passes the repeatability test.

| Unit type | Calibration mass used | Specifications |
|---|---|---|
| HX100 | 100g | Difference between highest and lowest values: within 0.3 mg |
| HX400 | 400g | Difference between highest and lowest values: within 2 mg |
| HX3000 | 3kg | Difference between highest and lowest values: within 20 mg |
| HX6000 | 6kg | Difference between highest and lowest values: within 200 mg |

## Cornerload error

Place the specified calibration mass at the center of the pan and record the displayed value. Then place the calibration mass, at positions 4, 5, 3, and 2. Check the difference between the values at the center and the four corners.




| Unit type | Calibration mass used | Specifications |
|---|---|---|
| HX100 | 50g | Difference between the values at the center and the four corners; within ± 0.3 mg |
| HX400 | 200g | Difference between the values at the center and the four corners; within ± 2 mg |
| HX3000 | 2kg | Difference between the values at the center and the four corners; within ± 20 mg |
| HX6000 | 4kg | Difference between the values at the center and the four corners; within ± 200 mg |

## Linearity / hysteresis for HX100

After calibration, place the calibration mass on the pan and gradually add more weight until the weighing limit is reached, as specified in the table below. Check the difference between the displayed value and the true value for each weight. Remove the calibration masses one at a time after the weighing limit was reached and check the difference for each weight.

| Unit type | Linearity Calibration mass used | | | | | Specifications (mg) | |
|---|---|---|---|---|---|---|---|
| | | | | | | Addition | Exclusion |
| HX100 | 0g | 20g | 40g | 60g | 100g | ±2 | ±3 |

### Hysteresis

The Difference between increasing and decreasing at 50g to be within ±3.

## Linearity / hysteresis for HX400, HX3000 & HX6000

After calibration, place the calibration mass on the pan and gradually add more weight until the weighing limit is reached, as specified in the table below. Check the difference between the displayed value and the true value for each weight. Remove the calibration masses one at a time after the weighing limit was reached and check the difference for each weight.

| Unit type | Calibration mass used | | | | | Specifications (mg) | |
|---|---|---|---|---|---|---|---|
| | | | | | | Addition | Exclusion |
| HX400 | 0g | 100g | 200g | 300g | 400g | ±2 | ±3 |
| HX3000 | 0g | 1kg | 2kg | 3kg | | ±20 | ±30 |
| HX6000 | 0g | 2kg | 4kg | 6kg | | ±200 | ±200 |

# 3. CORRECTIVE MAINTENANCE

Perform corrective maintenance for the HX series by referring to the HX maintenance flowchart and the troubleshooting table. The flowchart shows the corrective maintenance procedure and the relationship between steps. The troubleshooting table describes the possible cause and solution to facilitate corrective maintenance.

**Nodes in the HX maintenance flowchart**

Perform corrective maintenance from the following node character according to the error:

A: Replacing, disassembling, or assembling mechanical unit.

B: Replacing or adjusting electrical parts.

C: Initializing a board and inputting specific data.

D: Adjusting the characteristics of the mechanical unit.

E: Inputting temperature data.

F: Performing function tests.

G: Performing drift check.

## 3.1 Troubleshooting Table

The following troubleshooting table describes the possible cause of and the solution to problems. A through G in the table indicate the nodes to go to in the flowchart.

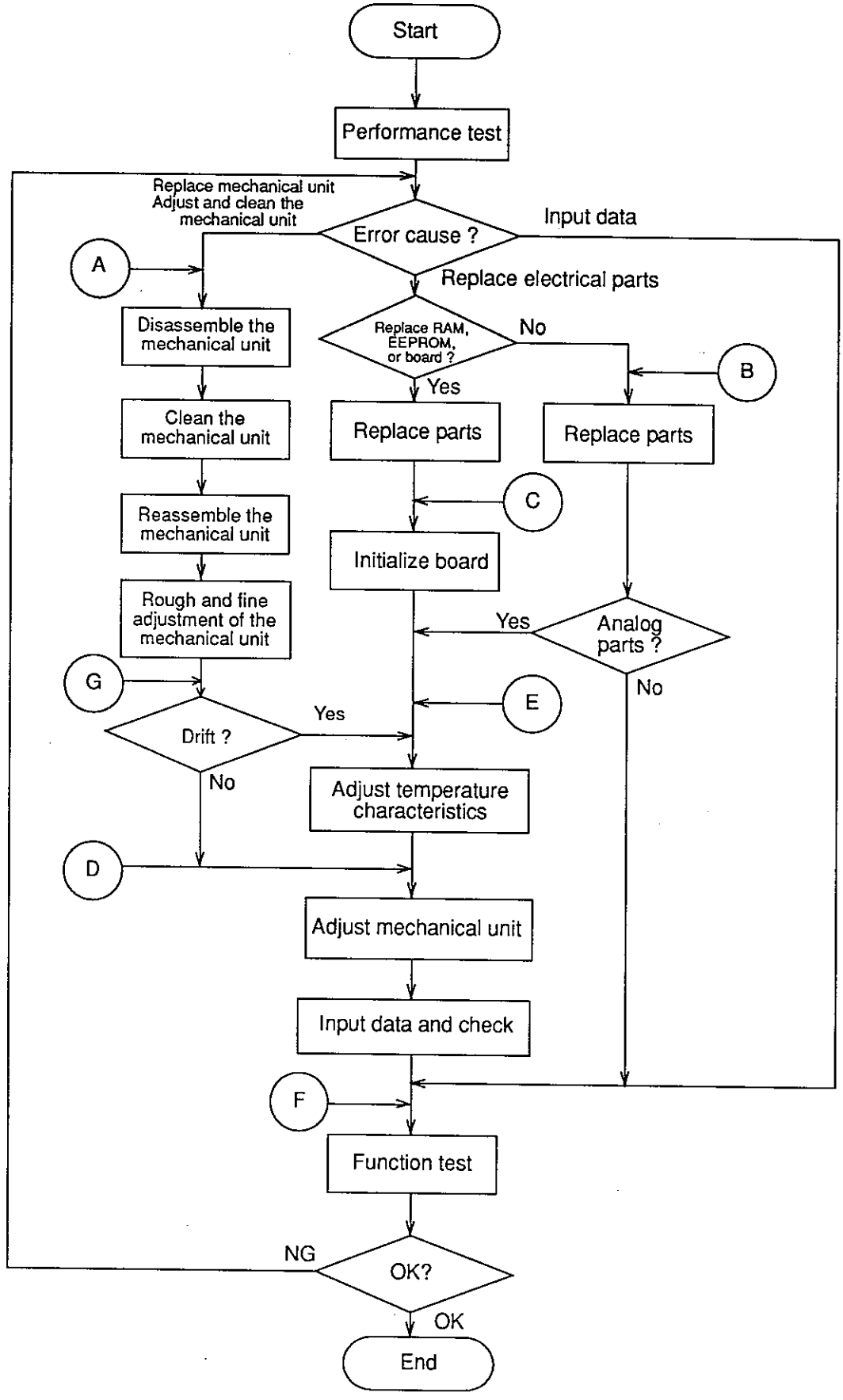
## Troubleshooting Table

| Problem | Location | Check | Solution |
|---|---|---|---|
| No display (position beam is not balanced) | AC adapter | Check if the correct adapter is used. | Replace with the correct adapter. |
| | Fuse blown | Check the fuse | Replace the fuse |
| | Trouble related to a cable | Check if the cable on the board PZ:2499 has been caught by the rear panel | Route the cable correctly |
| | Trouble related to a connector | Check the power supply board (PZ:2498) connection | Insert the connector firmly |
| | Board contact | Check if J16 of the motor board (PZ:2513) touches the weight handling mechanism. | Mount the board PZ:2513 as high as possible. Make terminal treatment of J16. |
| | Insulation error | Check the voltage on the test pin of PZ:2498. | Locate the defective board and replace with a normal one. |
| No display (position beam is balanced) | Display cable | Check if the display cable is disconnected. | Connect the display cable firmly. |
| | FFC | Check if the flat flexible cable (FFC) is disconnected. | Connect the FFC firmly. |
| | ROM | Check if the correct ROM is installed. | Check the ROM. |
| Unstable display | Parameter setting | Check if there is only one setting monitor ▲. | Press and hold the MODE key to set ▲▲▲. |
| | Pan and surroundings | Check if the pan and pan support are installed correctly. | Install them correctly. |
| | Display cable | Check if the main body is resting on the cable. | Put the display cable into the groove correctly. |
| | Foreign matter | Check for foreign matter in the main body. | Remove any foreign matter. |
| | Inside contact | Check if the cable for the analog board (PZ:2500) touches the flexible bearing assy. | Move the cable so that they will not touch the flexible bearing assy. |
| | | Check if the FFC touches the mechanical unit. | Set the FFC so that it will not touch the mechanical unit. |
| | | Check if the counter weight touches the flexible bearing assy. | Set the counter weight so that it will not touch the flexible bearing assy. |
| | | Check if there is dust in the force motor magnet assy. | Disassemble the force motor, remove the dust and reassemble. |
| | Weight handling mechanism | Check if the internal weight touches the mechanical unit. | Adjust the weight handling mechanism. |
| | | Check if the internal weight and weight handling mechanism are installed correctly | Adjust the weight handling mechanism position. |
| Unstable display | Trouble related to temperature A/D | Check if the display of T1 in the check mode is stable. | Insert J8 of the analog board (PZ:2500) firmly. |
| | Broken bearing | Check the flexible bearing assy. and tension bearing. | Replace any broken parts. |

| Problem | Location | Check | Solution |
|---|---|---|---|
| E or - E indication | Calibration error | Perform calibration. | Test the repeatability. |
| | Broken bearing | Check the value of D0 in the check mode. | Disassemble and reassemble the mechanical unit. |
| Error 0 | Temp. A/D count TO Error (8000<TO<15000) | Connecting Error | Check PZ:2500 J6/J8 |
| | | Analog board error | Change PZ:2500 |
| | | Temp. Sensor error | Change temp. Sensor of PZ:2500 |
| Error 1 | Unstable measurement using the RE-ZERO key. (more than 15 sec. | Unstable measurement display | Protect from drafts and vibration |
| | | | Check around weighing pan |
| Error 2 Not used | N/A | N/A | N/A |
| Error 3 | Irregular data from AD-1652 | Irregular operation. | Refer to manual. |
| Error 4 | Error of CAL weight | Around weighing pan | Replace weighing pan |
| | | Shipping screws installed in unit. | Remove shipping screws |
| | | Weight A/D conversion process. | Change parts & units. |
| | | CAL weight system. | Check CAL weight system. |
| Error 5 | Motor error | | |
| Error 6 | RAM read / write error | defective solder joint. | Check logic board. |
| | | Defective CPU. | Replace CPU |
| Error 7 | Product type setting error | Product type not set. | Set product type. |
| | | Bad connection or solder joint. | Check signal J5 of logic board. |
| | | EEPROM error. | Change analog board. |
| Error 8 Not used | N/A | N/A | N/A |
| Abnormal repeatability | Foreign matter or broken bearing | See "Unstable display" | Disassemble and reassemble the mechanical unit. |
| Large cornerload error | Erroneous level adjustment | Check if the bubble is centered in the bubble spirit level. | Adjust the level. |
| | Erroneous cornerload adjustment | Retry cornerload adjustment | Replace flexible bearing assemblies, tension and fulcrum bearings, if error is not corrected by readjustment. |
| Abnormal linearity | Linearity changes after the balance has been in operation for a period of time | Input the linearity data again. | |
| | Abnormal position sensor | Check the value of D0 and the response speed. | Adjust the position sensor. |
| | Broken flexible bearing | Check the flexible bearing assy. and tension bearing. | Replace any broken parts. |

| | | | |
|---|---|---|---|
| Internal weight error | Erroneous weight set value entry | Retry the internal weight set value entry (CAL SET). | Test weight repeatability. |
| | Abnormal repeatability | Test weight repeatability of the balance. | Disassemble and reassemble the mechanical unit. |
| | | Test the internal weight repeatability. | Check the weight handling mechanism. |
| | Abnormal linearity | Test the linearity. | Input the linearity data again then perform the internal weight-set value entry. |
| Large repeatability error | Broken flexible bearing | Check upper and lower flexible bearing assemblies, tension and fulcrum bearings. | Replace any broken parts. |
| Large inclination error (HX100) | counter weight out of adjustment | Adjust the counter weight. | Refer to the adjustment procedure. |
| Inaccurate clock | Lithium battery | Check the battery voltage. | Replace the battery. |

# 3.2 HX Maintenance Flowchart



AD: HX100 (  ) Check List  Domestic/Export OP –  OK/NG

↑ Type

S/N _____  Checked date ___ Year__Month__Day___  Inspector

1. External views

| | |
|---|---|
| No scratches or dust on the case and filter | OK/NG |
| No scratches on the weighing pan (omitted when pan for inspection is used) | OK/NG |
| Two level feet (rear) are installed. | OK/NG |
| Underhook cap is installed on the lower case. | OK/NG |
| Two leg caps (one each for right and left) are installed on the upper case. | OK/NG |
| Correct filters and key switches are installed. | OK/NG |
| Screws are tightened on the rear and lower cases. | OK/NG |
| Blank panel is installed on the rear case (omitted when optional unit is installed). | OK/NG |
| Name plates are correctly attached (according to the modification code table for export versions). | OK/NG |
| Weighing pan is level. | OK/NG |
| The proper level is provided by the bubble spirit level. | OK/NG |

2. Functions

| | |
|---|---|
| The ON/OFF key functions correctly | OK/NG |
| The RE-ZERO key functions correctly | OK/NG |
| The MODE key functions correctly | OK/NG |
| The SAMPLE key functions correctly | OK/NG |
| The CAL key functions correctly | OK/NG |
| The PRINT key functions correctly | OK/NG |
| Uniform brightness is obtained on the display. | OK/NG |
| All segments (except 'NET' and 'ANIMAL') are displayed when the display is turned on. | OK/NG |
| The decimal point is displayed (according to the modification code table for export versions). | OK/NG |
| The stabilization mark is displayed. | OK/NG |
| Correct remote key entry is obtained. | OK/NG |
| Correct RS-232C interface is obtained. | OK/NG |
| Correct remote control operation is obtained. | OK/NG |
| Correct OP- (  ) operation is obtained. | OK/NG |
| Correct OP- (  ) operation is obtained. | OK/NG |

## 3. Performance

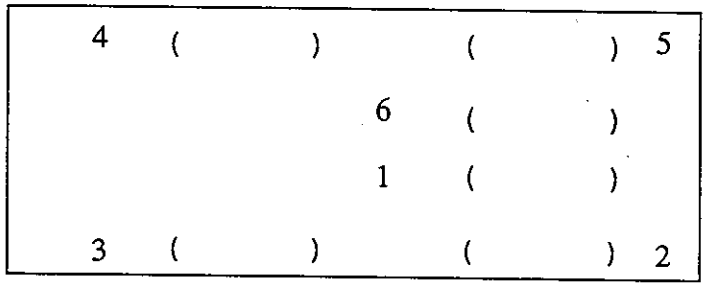
| | |
|---|---|
| Error is within 1 count. | |
| Stability is within 1 count. | |
| Internal weight repeatability (checked with 100 g calibration mass)<br>Specifications: within ± 2 counts | OK/NG |

| | | | |
|---|---|---|---|
| 1 | | 4 | |
| 2 | | 5 | |
| 3 | | | |

| | |
|---|---|
| Repeatability<br>Specifications: within 3 counts for the difference between the highest and lowest values | OK/NG |

| Repetitions | 0 g | 100 g |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

| | |
|---|---|
| Cornerload error (checked with 50 g mass)<br>Specifications: within ±3 counts for the difference between the values at the center and the four corners | OK/NG |




| | |
|---|---|
| Linearity<br>Specifications: within ± 2 counts | OK/NG |

| Calibration mass used | Weight values |
|---|---|
| 0g | |
| 20g | |
| 40g | |
| 60g | |
| 80g | |
| 100g | |

## 4. Storage and Shipping

| | |
|---|---|
| The two screws for transportation are tightened on the lower case. | OK/NG |

AD: HX400 (  ) Check List  Domestic/Export OP –
OK/NG

↑Type

S/N _____ Checked date ___ Year__Month__Day___ Inspector

1. External views

| | |
|---|---|
| No scratches or dust on the case and filter | OK/NG |
| No scratches on the weighing pan (omitted when pan for inspection is used) | OK/NG |
| Two level feet (rear) are installed. | OK/NG |
| Underhook cap is installed on the lower case. | OK/NG |
| Two leg caps (one each for right and left) are installed on the upper case. | OK/NG |
| Correct filters and key switches are installed. | OK/NG |
| Screws are tightened on the rear and lower cases. | OK/NG |
| Blank panel is installed on the rear case (omitted when optional unit is installed). | OK/NG |
| Name plates are correctly attached (according to the modification code table for export versions). | OK/NG |
| Weighing pan is level. | OK/NG |
| The proper level is provided by the bubble spirit level. | OK/NG |

2. Functions

| | |
|---|---|
| The ON/OFF key functions correctly | OK/NG |
| The RE-ZERO key functions correctly | OK/NG |
| The MODE key functions correctly | OK/NG |
| The SAMPLE key functions correctly | OK/NG |
| The CAL key functions correctly | OK/NG |
| The PRINT key functions correctly | OK/NG |
| Uniform brightness is obtained on the display. | OK/NG |
| All segments (except 'NET' and 'ANIMAL') are displayed when the display is turned on. | OK/NG |
| The decimal point is displayed (according to the modification code table for export versions). | OK/NG |
| Correct remote key entry is obtained. | OK/NG |
| Correct RS-232C interface is obtained. | OK/NG |
| Correct remote control operation is obtained. | OK/NG |
| Correct OP- (  ) operation is obtained. | OK/NG |
| Correct OP- (  ) operation is obtained. | OK/NG |

## 3. Performance

| | |
|---|---|
| Error is within 1 count. | |
| Stability is within 1 count. | |

Internal weight repeatability (checked with 400 g calibration mass) — OK/NG

Specifications: within ± 2 counts

| | | | |
|---|---|---|---|
| 1 | | 4 | |
| 2 | | 5 | |
| 3 | | | |

Repeatability — OK/NG

Specifications: within 2 counts for the difference between the highest and lowest values

| Repetitions | 0 g | 400 g |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

Cornerload error (checked with 200 g mass) — OK/NG

Specifications: within ±2 counts for the difference between the values at the center and the four corners

| | | |
|---|---|---|
| 4 ( ) | | ( ) 5 |
| | 6 ( ) | |
| | 1 ( ) | |
| 3 ( ) | | ( ) 2 |

Linearity — OK/NG

Specifications: within ± 2 counts for addition
within ± 3 counts for exclusion

| Calibration mass used | Increase | Decrease |
|---|---|---|
| 0g | | |
| 100g | | |
| 200g | | |
| 300g | | |
| 400g | | |

## 4. Storage and Shipping

| | |
|---|---|
| The two screws for transportation are tightened on the lower case. | OK/NG |

AD: HX3000 (  ) Check List  Domestic/Export OP –
OK/NG

↑ Type

S/N _____ Checked date ___ Year__Month__Day___ Inspector

1. External views

| | |
|---|---|
| No scratches or dust on the case and filter | OK/NG |
| No scratches on the weighing pan (omitted when pan for inspection is used) | OK/NG |
| Two level feet (rear) are installed. | OK/NG |
| Underhook cap is installed on the lower case. | OK/NG |
| Two leg caps (one each for right and left) are installed on the upper case. | OK/NG |
| Correct filters and key switches are installed. | OK/NG |
| Screws are tightened on the rear and lower cases. | OK/NG |
| Blank panel is installed on the rear case (omitted when optional unit is installed). | OK/NG |
| Name plates are correctly attached (according to the modification code table for export versions). | OK/NG |
| Weighing pan is level. | OK/NG |
| The proper level is provided by the bubble spirit level. | OK/NG |

2. Functions

| | |
|---|---|
| The ON/OFF key functions correctly | OK/NG |
| The RE-ZERO key functions correctly | OK/NG |
| The MODE key functions correctly | OK/NG |
| The SAMPLE key functions correctly | OK/NG |
| The CAL key functions correctly | OK/NG |
| The PRINT key functions correctly | OK/NG |
| Uniform brightness is obtained on the display. | OK/NG |
| All segments (except 'NET' and 'ANIMAL') are displayed when the display is turned on. | OK/NG |
| The decimal point is displayed (according to the modification code table for export versions). | OK/NG |
| Correct remote key entry is obtained. | OK/NG |
| Correct RS-232C interface is obtained. | OK/NG |
| Correct remote control operation is obtained. | OK/NG |
| Correct OP- (  ) operation is obtained. | OK/NG |
| Correct OP- (  ) operation is obtained. | OK/NG |

## 3. Performance

| | |
|---|---|
| Error is within 1 count. | |
| Stability is within 1 count. | |
| Internal weight repeatability (checked with 3 kg calibration mass)<br>Specifications: within ± 2 counts<br>( ± 3 counts allowed only for once) | OK/NG |

| | | | |
|---|---|---|---|
| 1 | | 4 | |
| 2 | | 5 | |
| 3 | | | |

| | |
|---|---|
| Repeatability<br>Specifications: within 2 counts for the difference between the highest and lowest values | OK/NG |

| Repetitions | 0 g | 3000 g |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

| | |
|---|---|
| Cornerload error (checked with 2 kg mass)<br>Specifications: within ±2 counts for the difference between the values at the center and the four corners | OK/NG |

4 ( ) ( ) 5

6 ( )

1 ( )

3 ( ) ( ) 2

| | |
|---|---|
| Linearity<br>Specifications: within ± 2 counts for addition<br>within ± 3 counts for exclusion | OK/NG |

| Calibration mass used | Increase | Decrease |
|---|---|---|
| 0g | | |
| 1000g | | |
| 2000g | | |
| 3000g | | |

## 4. Storage and Shipping

| | |
|---|---|
| The two screws for transportation are tightened on the lower case. | OK/NG |

AD: HX6000 (  ) Check List  Domestic/Export OP –
OK/NG

↑ Type

S/N _____ Checked date ___ Year__Month__Day___ Inspector

1. External views

| | |
|---|---|
| No scratches or dust on the case and filter | OK/NG |
| No scratches on the weighing pan (omitted when pan for inspection is used) | OK/NG |
| Two level feet (rear) are installed. | OK/NG |
| Underhook cap is installed on the lower case. | OK/NG |
| Two leg caps (one each for right and left) are installed on the upper case. | OK/NG |
| Correct filters and key switches are installed. | OK/NG |
| Screws are tightened on the rear and lower cases. | OK/NG |
| Blank panel is installed on the rear case (omitted when optional unit is installed). | OK/NG |
| Name plates are correctly attached (according to the modification code table for export versions). | OK/NG |
| Weighing pan is level. | OK/NG |
| The proper level is provided by the bubble spirit level. | OK/NG |

2. Functions

| | |
|---|---|
| The ON/OFF key functions correctly | OK/NG |
| The RE-ZERO key functions correctly | OK/NG |
| The MODE key functions correctly | OK/NG |
| The SAMPLE key functions correctly | OK/NG |
| The CAL key functions correctly | OK/NG |
| The PRINT key functions correctly | OK/NG |
| Uniform brightness is obtained on the display. | OK/NG |
| All segments (except 'NET' and 'ANIMAL') are displayed when the display is turned on. | OK/NG |
| The decimal point is displayed (according to the modification code table for export versions). | OK/NG |
| Correct remote key entry is obtained. | OK/NG |
| Correct RS-232C interface is obtained. | OK/NG |
| Correct remote control operation is obtained. | OK/NG |
| Correct OP- (  ) operation is obtained. | OK/NG |
| Correct OP- (  ) operation is obtained. | OK/NG |

## 3. Performance

| | |
|---|---|
| Error is within 1 count. | |
| Stability is within 1 count. | |
| Internal weight repeatability (checked with 6 kg calibration mass)<br>Specifications: within ± 2 counts | OK/NG |

| | | | |
|---|---|---|---|
| 1 | | 4 | |
| 2 | | 5 | |
| 3 | | | |

Repeatability

Specifications: within 2 counts for the difference between the highest and lowest values

OK/NG

| Repetitions | 0 g | 6000 g |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

Cornerload error (checked with 4 kg mass)

Specifications: within ±2 counts for the difference between the values at the center and the four corners

OK/NG

4 ( ) ( ) 5

6 ( )

1 ( )

3 ( ) ( ) 2

Linearity

Specifications: within ± 1 count for addition
within ± 2 counts for exclusion

OK/NG

| Calibration mass used | Increase | Decrease |
|---|---|---|
| 0g | | |
| 2000g | | |
| 4000g | | |
| 6000g | | |

## 4. Storage and Shipping

| | |
|---|---|
| The two screws for transportation are tightened on the lower case. | OK/NG |

# 4. DISASSEMBLY AND REASSEMBLY OF MECHANICAL UNIT

This chapter describes the procedures and notes for the flexible bearing assy. replacement, bobbin cleaning, and adjustment after reassembly of the mechanical unit.

Notes: Use a dust free environment for disassembly and reassembly.

Adjustments are needed after reassembly for linearity, repeatability, and cornerload error.

Temperature adjustment is also needed since the balance is affected by tightening torque or stress. Do not disassemble and reassemble where the temperature adjustment cannot be performed.

Mechanical alignment fixture:

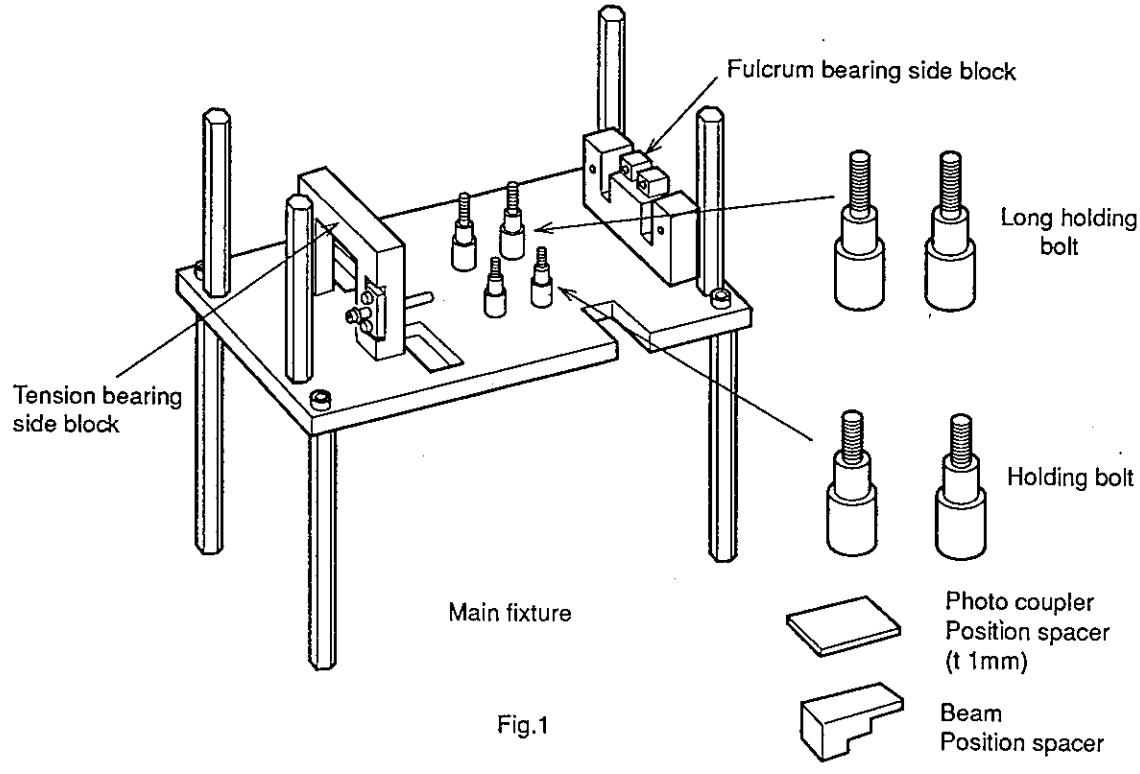



Fig.1

Other tools required:

Phillips screwdriver, 3mm
Allen wrench, 4mm

# 4.1 Disassembly

This section describes the disassembly procedure using the HX-400 as an example.

**Step 1** Remove the upper case

**Step 2** Remove the rear panel, avoid damaging the cable. (Fig. 2)

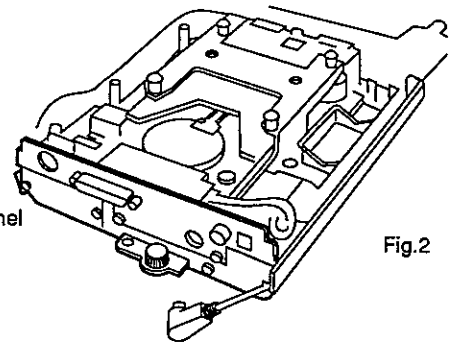


Fig.2

**Step 3** Remove the weight stopper. (Fig. 3)

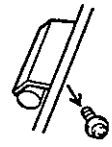


Fig.3

**Step 4** Remove the mechanical unit from the lower case. (Fig. 4)

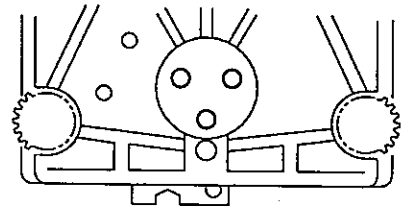


Fig.4

**Step 5** Remove the weight arm. (Fig. 5)

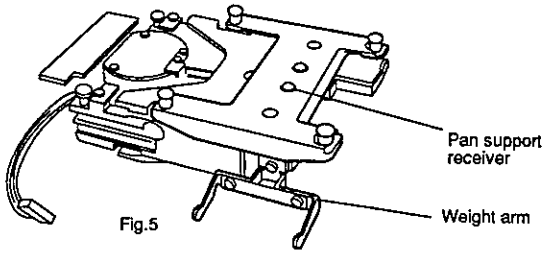


Fig.5

**Step 6** Remove the pan support receiver. (Fig. 5)

(This operation does not apply to HX-3000 and HX-6000)

**Step 7** Attach the mechanical unit to the main fixture (four screws in front and four on the bottom).(Fig. 6 & 7)

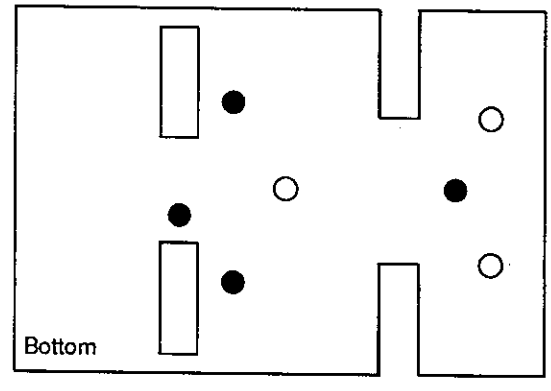


Fig.6

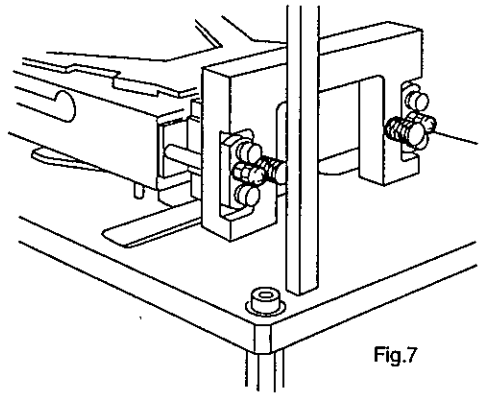


Fig.7

**Step 8** Remove the upper flexible bearing assy. (Fig. 8)

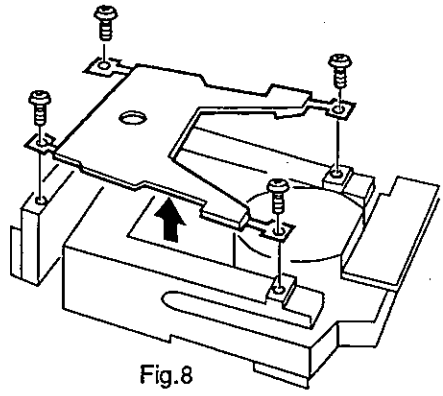


Fig.8

**Step 9** Place the unit upside-down and remove the lower flexible bearing assy. (Fig. 9)

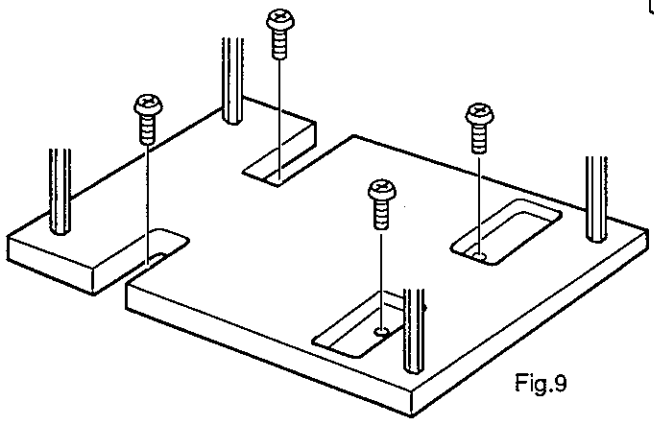


Fig.9

**Step 10** Remove the tension bearing while holding the beam. (Fig. 10 & 11)

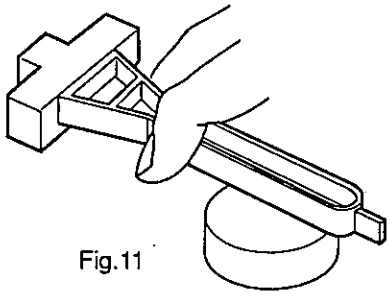


Fig.11

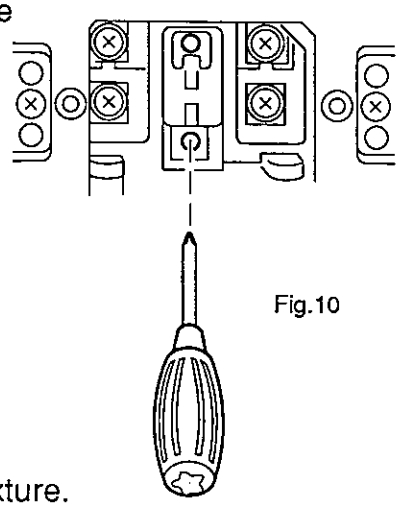


Fig.10

**Step 11** Remove the mechanical unit from the main fixture. Then remove the suspension guide from the mechanical unit. (Fig. 12)

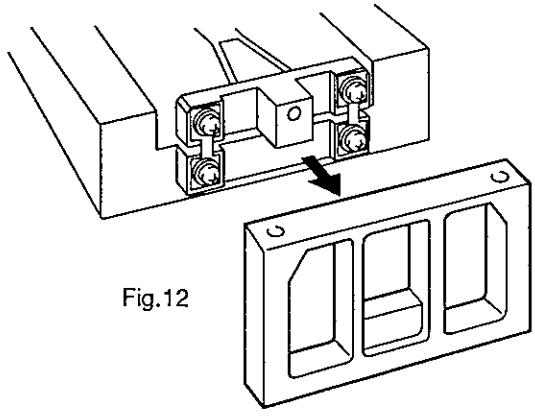


Fig.12

**Step 12** Attach the mechanical unit to the main fixture with seven screws (four in the front and three on the bottom).

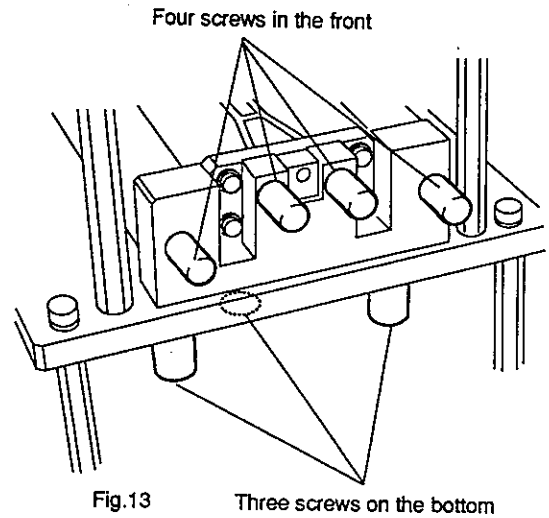



Fig.13

**Step 13** Remove the fulcrum bearings.

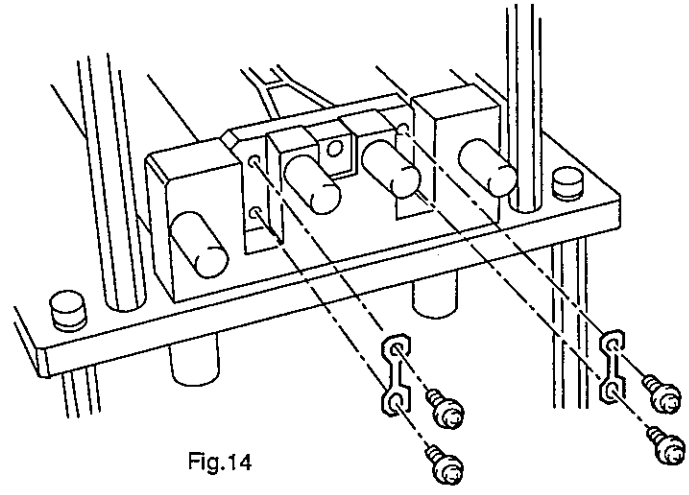


Fig.14

**Step 14** Remove the wire using the soldering iron.

**Step 15** Remove the shield plate, the position beam and bobbin, taking care not to damage them.

**Step 16** Place the flexible bearing assy. and the fulcrum bearing on a level surface and check their flatness. Replace them if they are bent or broken.

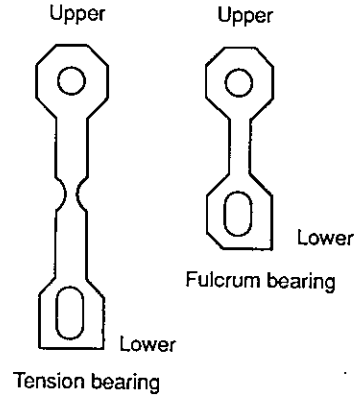



Fig.15

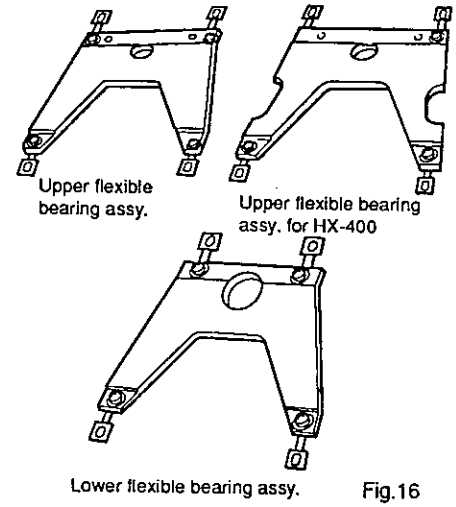



Fig.16

# 4.2 Cleaning the Bobbin

To clean the mechanical unit, the bobbin and the magnet must be cleaned, by the following procedure:

**Step 1** Prepare a 5 cm length of adhesive tape for cleaning.

Notes: Do not use compressed air as there may be metal particles blown loose from around the magnet base.

Do not smoke during the operation.

**Step 2** Disassemble the mechanical unit then remove the bobbin from the magnet.

**Step 3** Remove dust from the inside of the magnet using the Adhesive tape under a bright light. Use new tape whenever the Adhesive of the current tape stops sticking.

**Step 4** Clean the wire around the bobbin with adhesive tape.

**Step 5** Use a bright light to confirm that no dust is remains.

**Step 6** Insert the bobbin into the magnet.

**Step 7** Reassemble the mechanical unit.

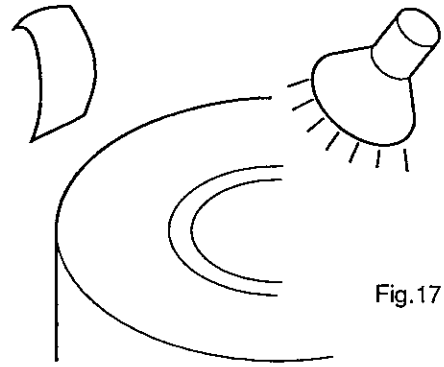


Fig.17

Magnet

# 4.3 Reassembly

**Step 1** Insert the position beam with the bobbin into the magnet taking care to avoid damage, then fasten with screws.

**Step 2** Attach the mechanical unit to the main fixture (at fulcrum bearing side) then install the fulcrum bearings. (Fig. 19, 20 & 21)

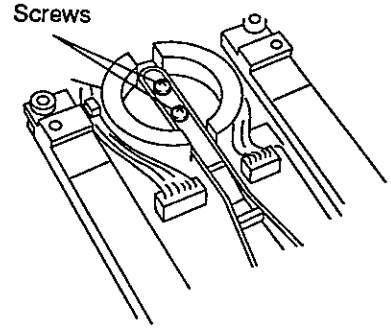



Fig.18

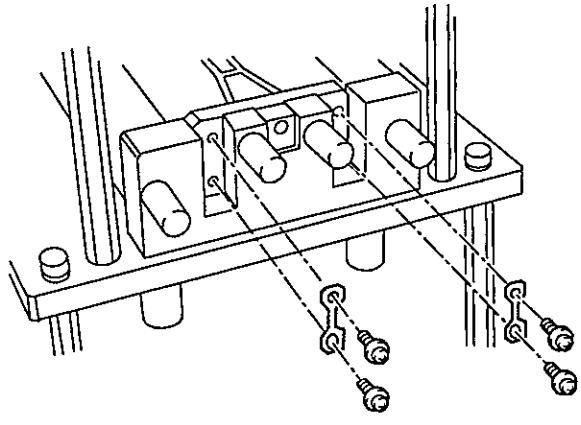


Fig.20

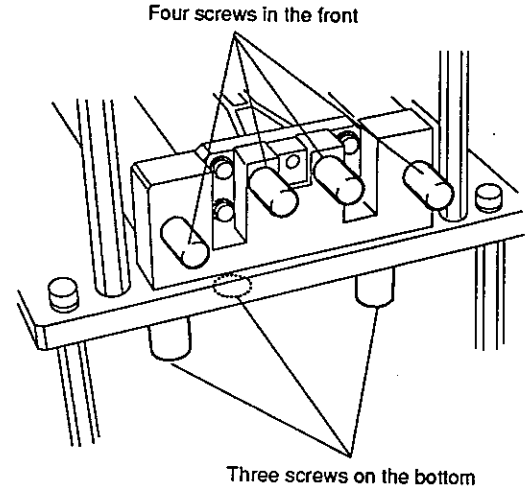



Fig.19

**Step 3** Adjust the bobbin position then tighten the screws. ( Caution, do not scratch the bobbin.)

**Step 4** Install the shield plate and H stopper. (Fig. 22)

**Step 5** Solder the wire using a soldering iron.

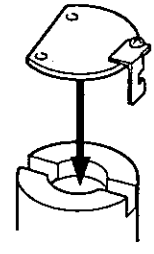


Fig.22

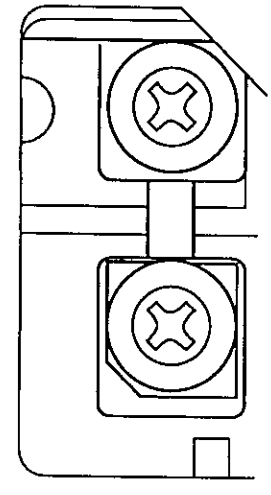


Fig.21

**Step 6** Replace the lower flexible bearing assy. and the suspension guide then replace the mechanical unit carefully.

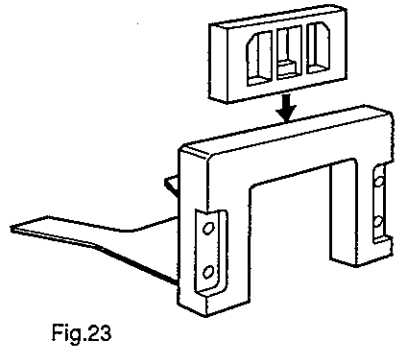


Fig.23

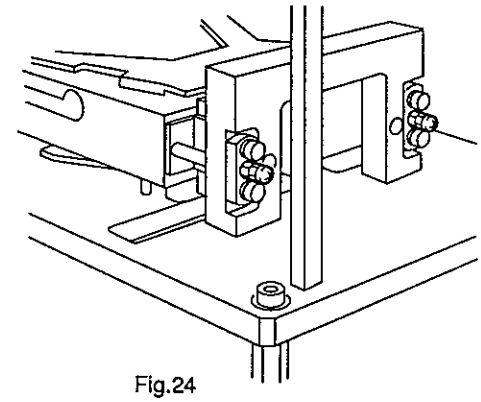


Fig.24

**Step 7** Attach the mechanical unit at the tension bearing side.

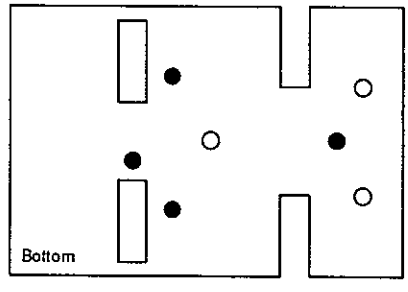



Fig.25

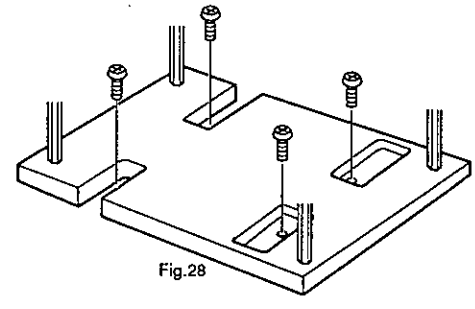


Fig.28

**Step 8** Attach the upper flexible bearing assy. ensuring correct position and avoiding inclination.

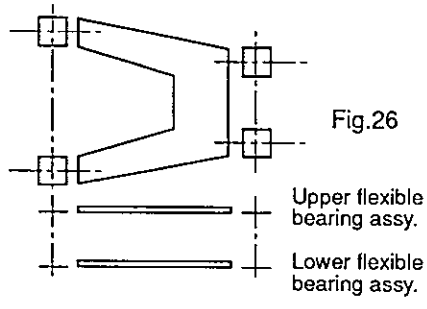



Fig.26

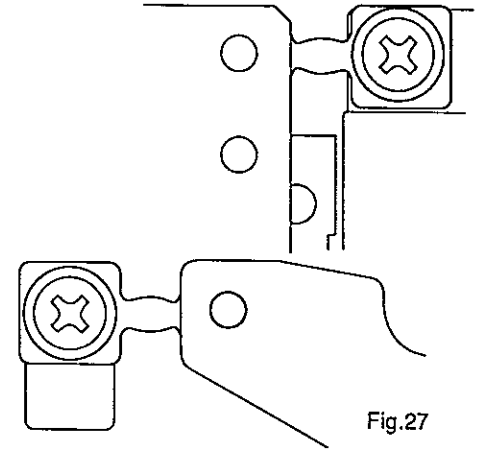


Fig.27

**Step 9** Attach the lower flexible bearing assy. ensuring correct position and avoiding inclination.

**Step 10** Tighten the tension bearing lightly.

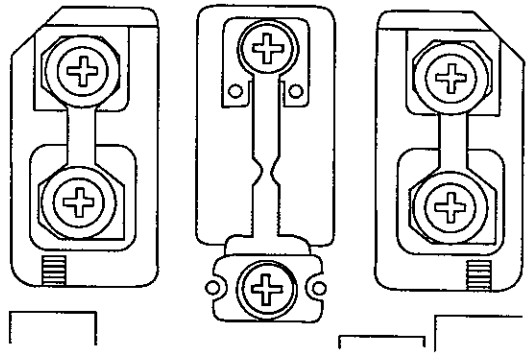


Fig.29

**Step 11** Adjust the position beam with the position spacer then fasten the tension bearing firmly.

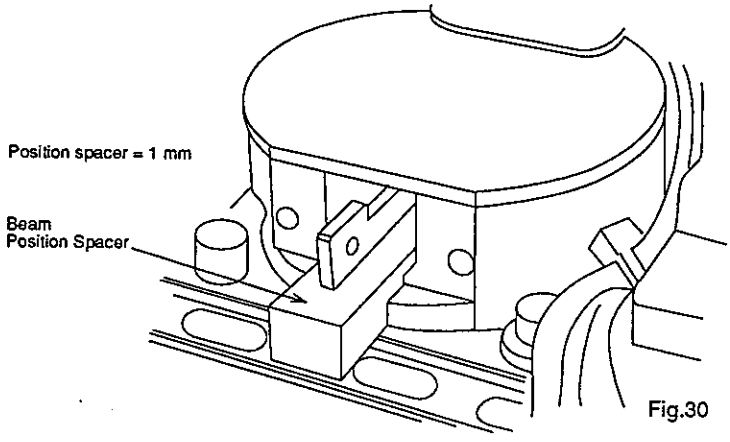



Fig.30

**Step 12** Remove the mechanical unit from the main fixture then install the weight arm.

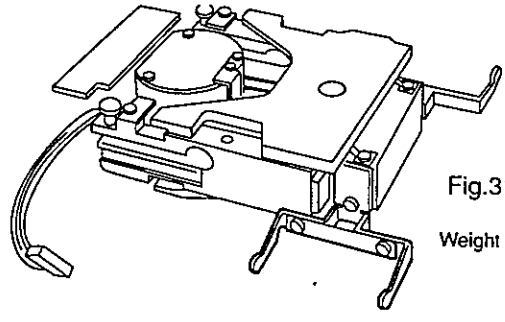


Fig.31

Weight arm

**Step 13** Install the position sensor board.

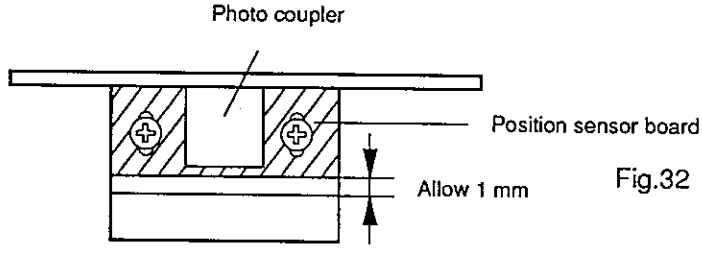



Fig.32

**Step 14** Adjust the mechanical unit position with the internal weight frame then fasten it to the lower case.

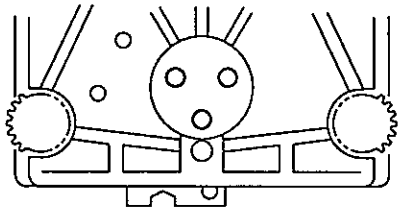


Fig.33

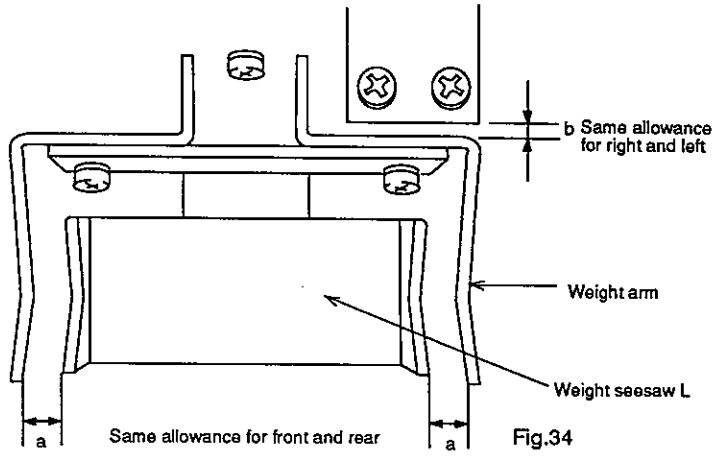



Fig.34

**Step 15** Install the rear panel avoiding damage to the wiring.

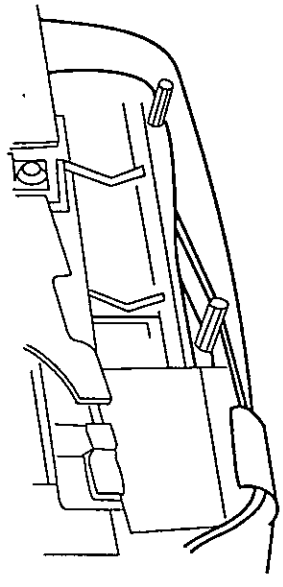


Fig.35

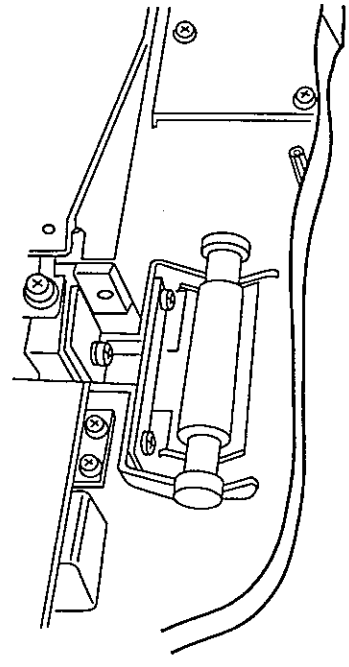


Fig.36

**Step 16** Replace the internal weight.

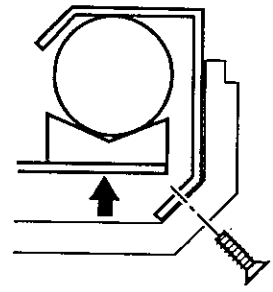


Fig.37

**Step 17** Supply power for lifting the internal weight then install the internal weight stopper.

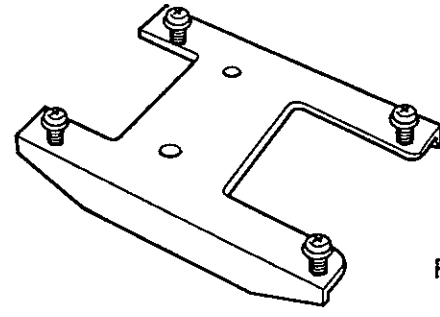


Fig.38

**Step 18** Install the pan support receiver.

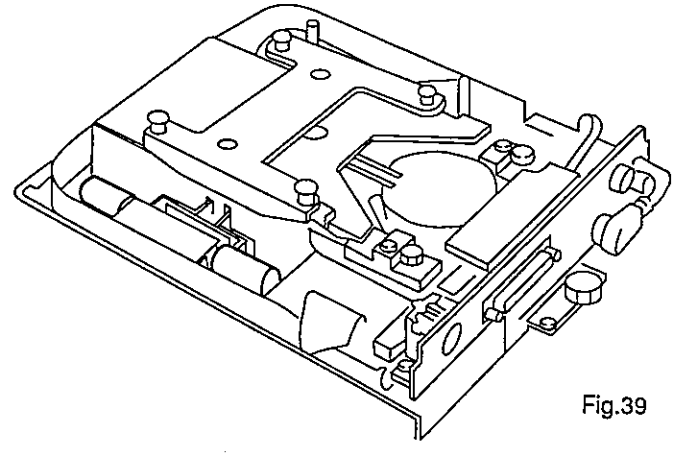


Fig.39

**Step 19** Check the assembly performance. Refer to the ADJUSTMENTS for details.

(1) Press the CAL key in the check mode with D6 displayed and check to see that the internal weight does not touch anything. (Repeatability check)

(2) Adjust the cornerload error to be within ±2 counts.
Calibration mass: 5 kg for HX-6000
2 kg for HX-3000
200 g for HX-400
50 g for HX-100

(3) Check the linearity.

(4) Input the internal weight error data.

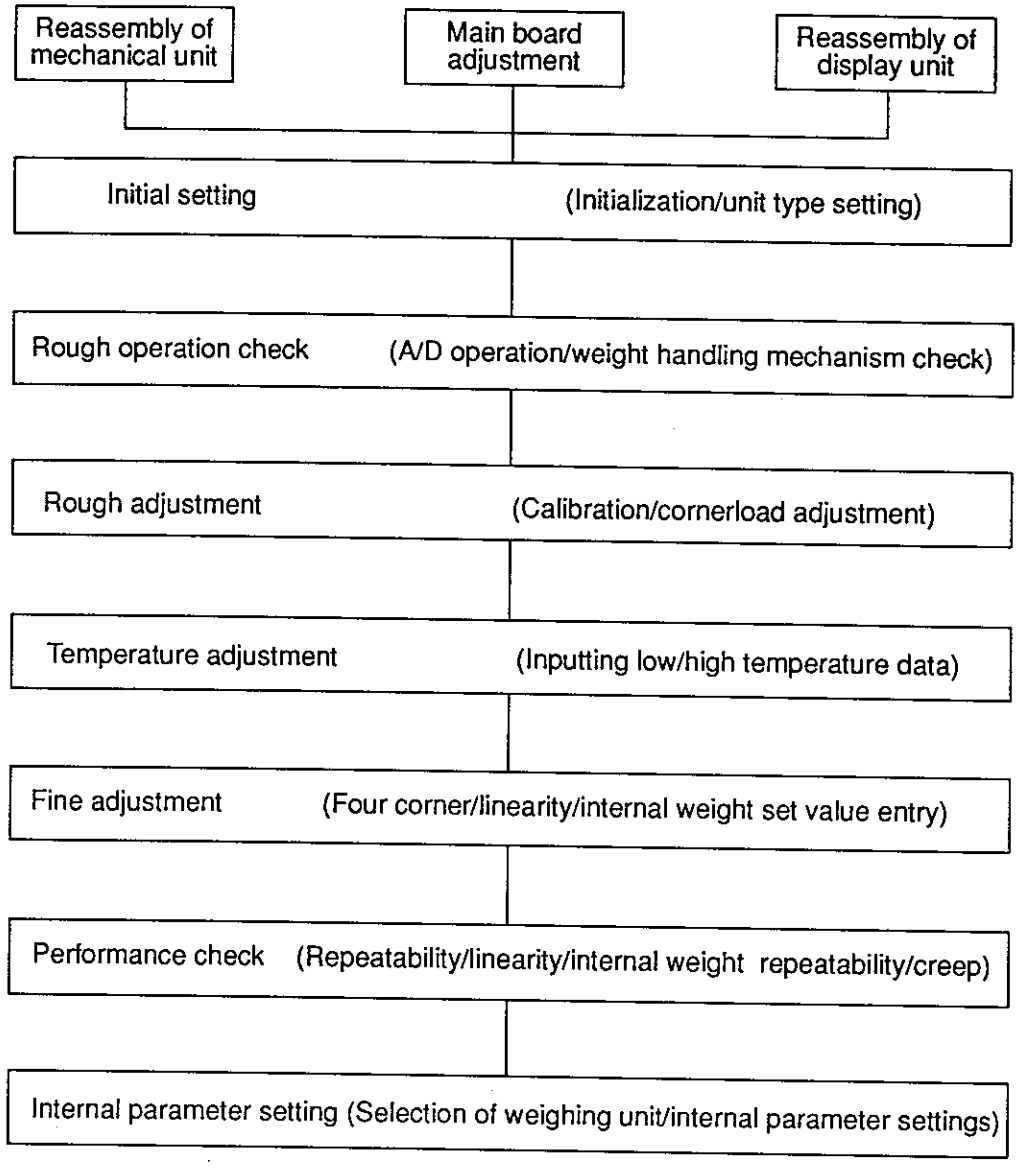
If any results of performance checks are incorrect, reassemble the mechanical unit.

# 5. Adjustments

## 5.1 HX Series Adjustment Specifications

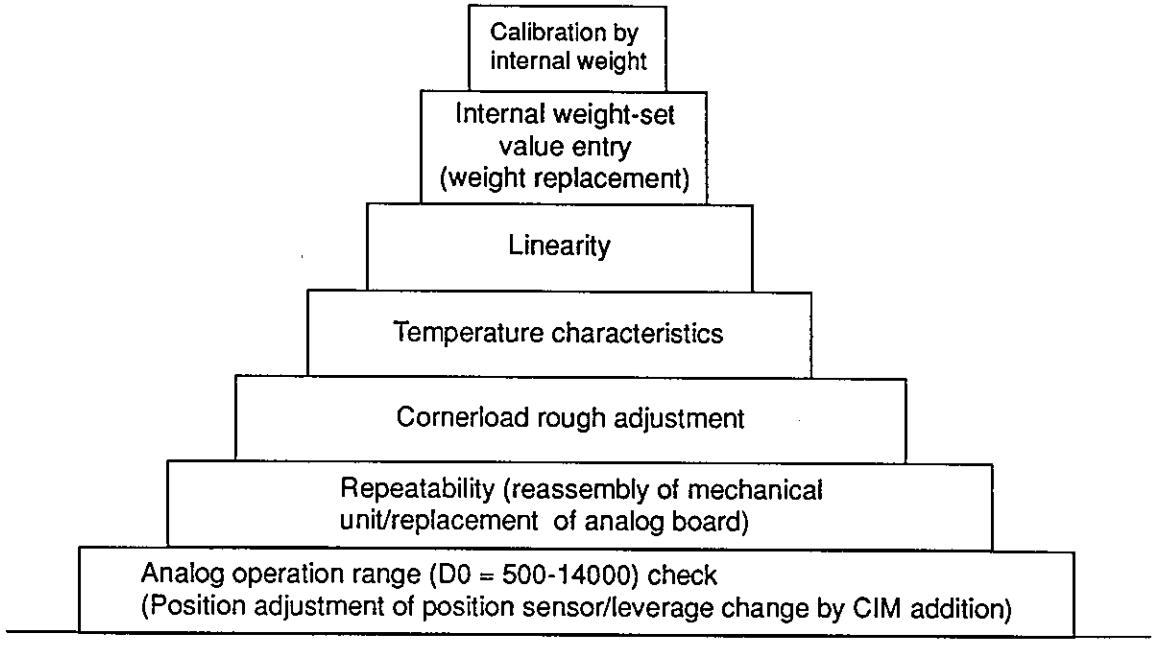
| Item | HX100 | HX400 | HX3000 | HX6000 |
|---|---|---|---|---|
| Repeatability (five times) | ±1/10g (D6 display) | ±1/400g (D6 display) | ±2/3kg (D5 display) | ±2/6kg (D5 display) |
| Cornerload error | | | | |
| Value difference from the center | ±2/50g | ±2/200g | ±2/2kg | ±2/4kg |
| Diagonal-corner error | – | – | – | 2/4kg |
| Linearity | ±2 | ±2 | ±2 | ±1 |
| Hysteresis | ±3 | ±3 | ±3 | ±2 |
| Temperature drift | | | | |
| Zero point | ±50 | ±20 | ±20 | ±20 |
| Span (calibration mass) (internal weight) | ±30/100g | ±16/400g | ±10/3kg | ±3/5kg |
| Internal weight repeatability (five times) | ±1/100g | ±1/400g | ±1/3kg | ±1/6kg |
| Creep (five minutes) | ±3/100g | ±3/400g | ±3/3kg | ±3/6kg |
| Inclination error (up to 1mm at the rear) | ±10 | | | |

# 5.2 Reassembly and Adjustment Flowchart



# 5.3 General Precautions

The data structure of the HX series is shown below. Functions listed nearer to the bottom are more basic. If any data is adjusted, the data listed above the adjusted data must also be adjusted.



### PZ: 2500A/B/C/D (Analog board)

<Board type>

| Unit type | PZ No. | R6 | R7 |
|---|---|---|---|
| HX100 | PZ:2500D | 200R00 | None |
| HX400 | PZ:2500A | 200R00 | 200R00 |
| HX3000 | PZ:2500B | 200R00 | 100R3A |
| HX6000 | PZ:2500C | 60R | None |

### PZ: 2481/A/B/C/D (Position sensor board)

<Board type>

| Unit type | PZ No. | R13 |
|---|---|---|
| HX100 | PZ:2481D | 120K |
| HX400 | PZ:2481A | 82K |
| HX3000 | PZ:2481B | 56K |
| HX6000 | PZ:2481C | 68K |

### PZ: 2598, PZ:2497 (Logic board) – Common to all units

<Equipment required>

- Voltmeter, capable of measuring down to 1 mV

1. Battery voltage check
   1 Measure the voltage across the lithium battery.
   → The voltage must be 3.0 V or higher.
   2 Measure the voltage across R1 (2.2 K).
   → The voltage must be within 3 mV to 5 mV.

### PZ:2498 (Power board) - Common to all units

<Equipment required>

- Interface board PZ:2499 (normal board)
- AC adapter (see parts list for the correct adapter)
- Voltmeter, capable of measuring down to 0.1 V

1. Output voltage check

   1 Connect the PZ:2499 2P connector to the PZ:2498/2497.
   2 Connect the AC adapter to the PZ:2499.
   3 Measure the voltage between test pins LG and VDD.
   The voltage must be between 4.7 V and 5.3 V.
   Measure the voltage between test pins LG and VEE.
   The voltage must be between -9.7 V and -10.3 V.

## PZ:2501 (Display board) - Common to all units

<Equipment required>

- Normal HX
- Normal key switch

1. Operation check

   1 Connect the HX to the display board.

   2 Turn the power on.

   3 Check that [ .] or [P-FAIL] is displayed.

   4 Check that BEEP sounds when any key is pressed and no abnormal sound is heard.

   5 Press and hold the RE-ZERO key and press the ON/OFF key, and check that all segments are displayed.

   * The key switch may be damaged if it is connected and disconnected repeatedly. Use a new key switch if the board is replaced.

# 5.4 Check Mode

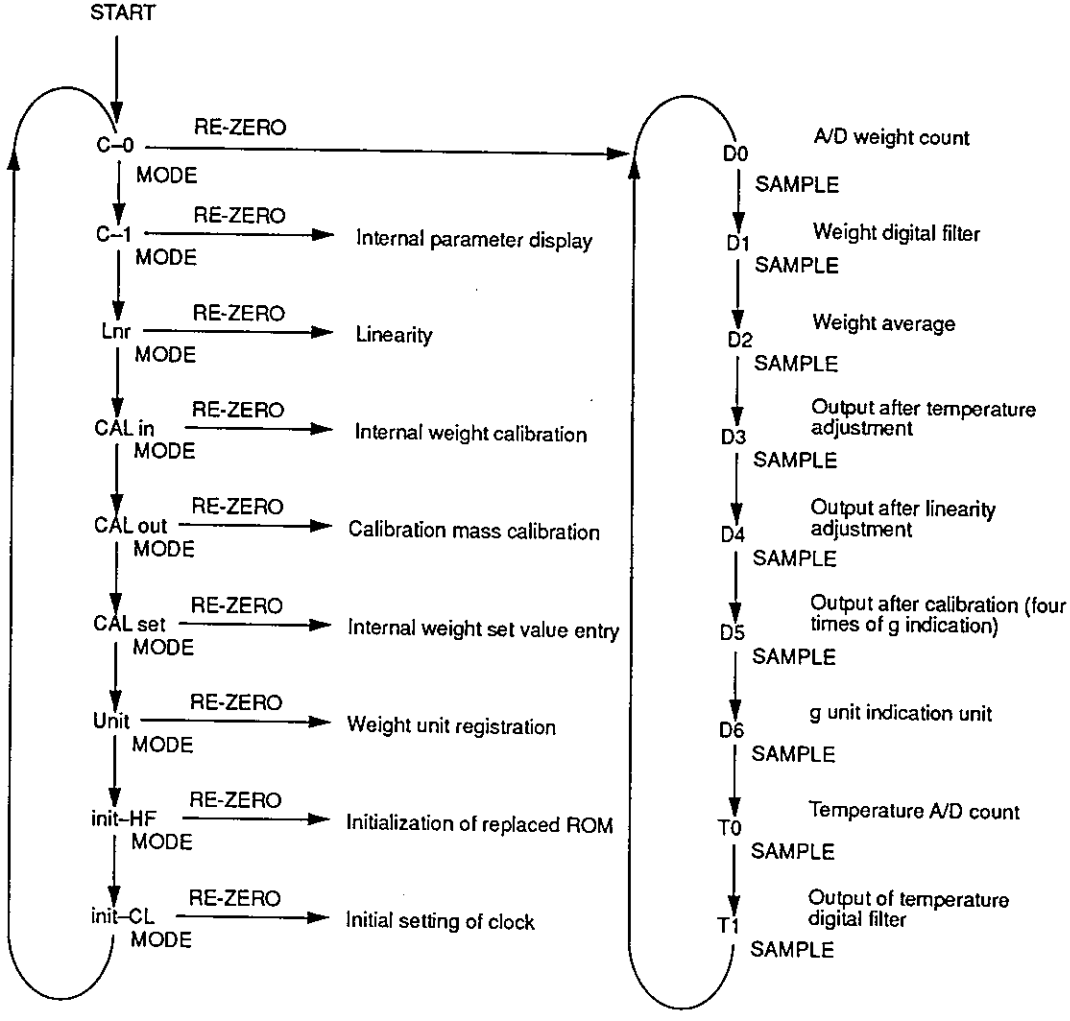
1. Entering check mode

   1 Verify that the display is off.

   2 Press and hold the RE-ZERO and MODE keys and momentarily press the ON/OFF key. Release the MODE and ON/OFF keys while holding the RE-ZERO key. Immediately press the MODE key twice. This must be done quickly (If the time is displayed in the standby mode, press and hold the RE-ZERO key and then the MODE key. Wait for about two seconds while the date is displayed, the balance enters the check mode only when the time is displayed again).

   3 The ROM version and type are displayed as [ 1.00 XXXX HX ]. (XXXX represents 100, 400, 3000, or 6000.)

2. Check mode menu
   C-0 is displayed when the RE-ZERO key is pressed.




In the period from D0 to T1, the internal weight goes downward when the CAL key is pressed. It goes upward when the CAL key is pressed again.

## 5.5 Initial Setting

1. Check that all the cables are correctly installed.
2. Connect the AC adapter.
3. One of the following is displayed at this time:
   1) A decimal point (Power indicator)
   2) [ P-FAIL ]
   3) Time such as [ 12:34 AM ]

      The following may be displayed at this time, but they are not abnormal.

      1 A false time such as [ 0A:0F ]

      2 Time display alters quickly.

   4) After all segments are displayed for several seconds, the weight value or E will be displayed. In this case, press the ON/OFF key to display 1) or 3) above.

      * 1) to 3) are defined as the display off-state.

4. Perform the initialization. (See Initialization.)
5. Perform the unit type setting. (See Unit type setting.)
6. Disconnect the AC adapter then reconnect it. Enter the check mode again and check that the unit type setting is correct.

## 5.6 Initialization

<Caution>

This operation initializes all the following data. The adjustments are also required.

- Unit type setting (set to HX-6000)
- Temperature data (cleared)
- Linearity data (cleared)
- Internal weight value (set to default)
- Time/date (set to default)
- Internal parameter setting (set to manufactures setting)

1. Entering check mode

   1 Verify that the display is off.

   2 Press the RE-ZERO and MODE keys.
   Wait for two seconds if time is displayed. The balance enters the check mode only when time is displayed.

   3 Press and hold the RE-ZERO and MODE keys and press the ON/OFF key. Press and hold the RE-ZERO key and immediately press the MODE key twice.

   4 The ROM version and type are displayed such as [ 1.00 XXXX HX ]. (XXXX is undefined.)

2. Initialization

   1 Press and hold the MODE and SAMPLE keys and press the PRINT key. [ init ] will be displayed.

   2 Press and hold the CAL key and press the RE-ZERO key. [ ---- ] will be displayed for two seconds then return to [ init ] display.

3. End

   If the unit type setting is to be performed, proceed to the unit type setting procedure.

   If the unit type is HX-6000, press the ON/OFF key to turn the display off.

## 5.7 Unit Type Setting

<Caution> This operation alternates the unit type setting while at the same time the default value is set to the internal weight. Internal weight-set value entry is required after this operation.

Temperature and linearity data are not affected.

1 Verify that the display is off.

2 Press and hold the RE-ZERO and MODE keys and momentarily press the ON/OFF key. Release the MODE and ON/OFF keys while holding the RE-ZERO key. Immediately press the MODE key twice.

3 Check that the unit type is displayed, for example, [ 1.00 6000 HX ].

4 Press and hold the MODE and SAMPLE key and press the PRINT key. [ init ] will be displayed.

5 Press the MODE key. [ type ] will be displayed.

6 Press the RE-ZERO key. [ X.XX 6000 HX ] will be displayed.

7 Pressing the RE-ZERO key alternates the unit type from 6000, 3000, 400, 100, then 6000. Select the desired unit type.

8 Press the PRINT key. [ ---- ] will be displayed for about two seconds then return to [ init ] display.

9 Press the ON/OFF key to turn the display off and end the unit type setting.

## 5.8 Rough Operation Check

1. A/D count check in the check mode

1 Verify that the display is off.

2 Press and hold the RE-ZERO and MODE keys and momentarily press the ON/OFF key. Release the MODE and ON/OFF keys while holding the RE-ZERO key. Immediately press the MODE key twice.

3 Check that the unit type is displayed, for example [ 1.00 3000 HX ].

4 Press the RE-ZERO key. [ C-0 ] will be displayed.

5 Press the RE-ZERO key. [ XXX D0 ] will be displayed. (Weight A/D count display)

6 Install the weighing pan and pan support correctly and check that the counted values are within the range mentioned in the table below.

7 Press the SAMPLE key seven times. [ XXXX T0 ] will be displayed. (Temperature A/D count display)

Check that the counted values for the room temperature between 15 and 25°C are within the range mentioned in the table below.

| Unit type | D0 (Weight A/D) | T0 (Temperature A/D) |
|---|---|---|
| HX100 | 500~2500 | 10000±2000 |
| HX400 | 500~2000 | 10000±2000 |
| HX3000 | 500~1500 | 10000±2000 |
| HX6000 | 500~2000 | 10000±2000 |

2. Motor operation check

1 Check that D0 is displayed (weight A/D count display) and press the SAMPLE key five times.

2 Motor rotates whenever the CAL key is pressed. Check the following points:
- Operation the internal weight is smoothly performed.
- No abnormal sound is heard during the weight handling.

3 When D5 is displayed, check the internal weight repeatability.

| Unit type | Repeatability specifications (D5 display) |
|---|---|
| HX100 | ±2 |
| HX400 | ±2 |
| HX3000 | ±2 |
| HX6000 | ±2 |

## 5.9 Rough Adjustment

1. Calibration

1 Verify that the display is on.

2 Check that nothing is on the weighing pan.

3 Press the CAL key. Automatic calibration will be performed.

4 After [ CAL END ] display, [ 0.00 g ] will be displayed.

2. Cornerload adjustment

Perform the cornerload adjustment in the check mode with D6 displayed.

1 Verify that the display is on.

2 Press and hold the RE-ZERO and MODE keys and momentarily press the ON/OFF key. Release the MODE and ON/OFF keys while holding the RE-ZERO key. Immediately press the MODE key twice.

3 Check that the unit type is displayed, for example [ 1.00 3000 HX].

4 Press the RE-ZERO key. [ C-0 ] will be displayed.

5 Press the RE-ZERO key. [ XXXX D0 ] will be displayed.

6 Press the SAMPLE key six times. [ XXXX D6 ] will be displayed.

7 Perform the cornerload adjustment. The difference between the values at the center and the four corners must be within the range given in the table below.

| Unit type | Calibration mass used | Rough adjustment specifications |
|---|---|---|
| HX100 | 50g | ± 5 counts |
| HX400 | 200g | ± 5 counts |
| HX3000 | 2kg | ± 5 counts |
| HX6000 | 4kg | ± 5 counts |

3. Counter weight check (for HX-100 only)

Perform the counter weight check in the check mode with D6 displayed. Refer to 2. Cornerload adjustment, for entering the check mode.

1 Press the RE-ZERO for zero indication.

2 Elevate the front with the 1mm thick spacer and read the changed value (inclination error) at the zero point.

3 Adjust the counter weight position and repeat the test until the inclination error is within the range given in the table below.

| Unit type | Inclination error (D6 display) |
|---|---|
| HX100 | ±10 |
| HX400 | |
| HX3000 | |
| HX6000 | |

# 5.10 Temperature Adjustment

Input the high temperature data at 30°C and low temperature data at 10°C. Do this four hours after the temperature stabilizes.

First input the high temperature data then the low temperature data.

Then return to the high temperature again to check the drift value between the zero point and the temperature span.

1. Input of temperature data

   1 Verify that the display is off.

   2 Press and hold the RE-ZERO and MODE keys and momentarily press the ON/OFF key. Release the MODE and ON/OFF keys while holding the RE-ZERO key. Immediately press the MODE key twice.

   3 Check that the unit type is displayed, for example [ 1.00 3000 HX ]

   4 Press and hold the MODE and SAMPLE keys and press the PRINT key. [ init ] will be displayed.

   5 Press the MODE key twice to initiate [ tH ] display and press MODE key again to display [ tL ]. Input the high temperature data when [ tH ] is displayed, and low temperature with [ tL ].

   6 Press the RE-ZERO key. The motor drives and internal weight position adjustments will be performed. [ tH 0 ]/[ tL 0 ] will be displayed.

   7 Press the RE-ZERO key with nothing placed on the pan. The weight mark will be displayed.

   8 Check that [ tH F ]/[ tL F ] is displayed after the display stabilizes.

   9 Place the calibration mass of the weight specified in the table below on the pan and press the RE-ZERO key. The weight mark will be displayed. (HX-100/400 press the RE-ZERO key then the CAL key, to lower the internal weight)

   10 Check that [ init ] is displayed after the display stabilizes.

A Remove the calibration mass.

| Unit type | Mass used |
|---|---|
| HX100 | 100g (or internal weight) |
| HX400 | 400g (or internal weight) |
| HX3000 | 3kg |
| HX6000 | 5kg |

2. Temperature check

1 After inputting the low temperature data, enter the check mode with D6 displayed.

2 Press the RE-ZERO key for 0 indication then place the calibration mass on the pan and record the range value. Remove the calibration mass.

3 Change the temperature to high and leave for four hours.

4 Read the value at the zero point.

5 Press the RE-ZERO key again for 0 indication.

6 Place the calibration mass on the pan and read the range value.

7 Check that the values at zero point and the span are within the range given in the table below.

| Unit type | Zero point | Span | |
|---|---|---|---|
| | | Calibration mass | Internal weight |
| HX100 | ±50 counts | ±30/100g | ±30 |
| HX400 | ±20 counts | ±16/400g | ±16 |
| HX3000 | ±20 counts | ±10/3kg | |
| HX6000 | ±20 counts | ±3/5kg | |

# 5.11 Fine Adjustment

### Cornerload Adjustment

Perform the cornerload fine adjustment in the check mode with D6 displayed.

1 Verify that the display is off.

2 Press and hold the RE-ZERO and MODE keys and press the ON/OFF key.

3 Check that the unit type is displayed. e.g. [ 1.00 3000 HX ]

4 Press the RE-ZERO key. [ C-0 ] will be displayed.

5 Press the RE-ZERO key. [ XXXX D0 ] will be displayed.

6 Press the SAMPLE key six times. [ XXXX D6 ] will be displayed.

7 Perform the cornerload fine adjustment. The difference between the center and four corners must be within the range mentioned in the table below.

8 Check that the difference between the two diagonal corners are within 2 counts. (HX-6000 only)

| Unit type | Calibration mass used | Fine adjustment specifications |
|---|---|---|
| HX100 | 50g | ± 2 counts |
| HX400 | 200g | ± 2 counts |
| HX3000 | 2kg | ± 2 counts |
| HX6000 | 5kg | ± 2 counts |

## Linearity Data Input

1. Warm-up and pre-weighing
   1 The power must be on for at least one hour.
   2 Place a full-scale-weight calibration mass on the pan then remove it. Repeat this two or three times.
2. Input of linearity data input
   1 Verify that the display is off.
   2 Press and hold the RE-ZERO and MODE keys and momentarily press the ON/OFF key. Release the MODE and ON/OFF keys while holding the RE-ZERO key. Immediately press the MODE key twice.
   3 Check that the unit type is displayed. e.g. [ 1.00 3000 HX ]
   4 Press the RE-ZERO key. [ C-0 ] will be displayed.
   5 Press the MODE key twice. [ Lnr ] will be displayed.
   6 Press the RE-ZERO key. [ Lnr 0 ] will be displayed.
   7 Press the RE-ZERO key with nothing placed on the pan.
   8 After the display stabilizes, check that [ Lnr 1 ] is displayed.
   9 Place calibration mass A then press the RE-ZERO key.
   10 After the display got stable, check that [ Lnr 2 ] is displayed.
   11 Place calibration mass B on the pan then press the RE-ZERO key.
   12 After the display stabilizes, check that [ Lnr F ] is displayed.
   13 Place calibration masses A and B on the pan then press the RE-ZERO key.
   14 After the display stabilizes, check that [ C-0 ] is displayed.

| Unit type | Calibration mass A | Calibration mass B |
|---|---|---|
| HX100 | 50g | 50g |
| HX400 | 200g | 200g |
| HX3000 | 1kg | 2kg |
| HX6000 | 2kg | 4kg |
| | or (3kg) | (3kg) |
| | or (1kg) | (5kg) |

## Internal Weight Set Value Entry

1. Warm-up and pre-weighing

   1 The power must be on for at least one hour.

   2 Place a full-scale-weight calibration mass on the pan then remove it. Repeat this two or three times.

2. Entering check mode and performing weight set value entry

   1 Check that [ C-0 ] is displayed and press the MODE key five times.

   2 Check that [ CAL SEt ] is displayed.

   3 Press the RE-ZERO key. Wait for a few seconds while the motor rotates and pre-weighing of the internal weight is performed.

   4 Check that the value of the calibration mass in use is displayed. e.g. [2000.00 g]. If the displayed value is other than that listed in the table below, change the value with the MODE key.

   5 Press the RE-ZERO key with the pan empty.

   6 Check that [ CAL 0 ] is displayed. After the display stabilizes, [CAL F] will be displayed and the weight mark will blink.

   7 Place the calibration mass with the weight displayed in step 4, on the pan.

   8 After the display stabilizes, check that [ CAL End ] is displayed and the weight mark blinks.

   9 Remove the calibration mass. The blinking of the weight mark stops.

   10 Press the RE-ZERO key. [ ---- ] will be displayed.

   Weight handling will be performed automatically afterwards.

   Zero point reading → weight down → weight up

   11 ROM version 2.01, repeat steps 5 ~ 10 four times

   12 End when [ C-0 ] is displayed.

| Unit type | Calibration mass used |
|---|---|
| HX100 | 100g |
| HX400 | 400g |
| HX3000 | 2kg |
| HX6000 | 5kg |

## Export Setting

1. Unit of weight registration

   Register the unit of weight in the check mode by referring to the modification code table.

   1 Have the display off.

   2 Press and hold the RE-ZERO and MODE keys and momentarily press the ON/OFF key. Release the MODE and ON/OFF keys while holding the RE-ZERO key. Immediately press the MODE key twice.

   3 Check that the unit type is displayed. e.g. [ 1.00 3000 HX ]

   4 Press the RE-ZERO key. [ C-0 ] will be displayed.

   5 Press the MODE key six times. [ Unit ] will be displayed.

   6 Press the RE-ZERO key. [ Unit g ] will be displayed.

   7 Register the desired weight unit as follows:

   - Press the SAMPLE key to register the displayed unit of weight.
   - Press the MODE key to display the next unit of weight.

   8 Press the PRINT key when the registration is completed.

   9 End when [ C-0 ] is displayed. Turn the display off.

2. Date setting

   Change the internal parameter setting for the date display order (YMD/MDY/DMY). If the specification in the modification code table is [YMD], the same as the manufactures setting, it does not need to be changed.

   1 Verify that the display is off.

   2 Press and hold the RE-ZERO and MODE keys, press the ON/OFF key.

   3 Press the MODE key. [ Stb-b 0 ] will be displayed.

   4 Press the MODE key twice. [ Print 0 ] will be displayed.

   5 Press the SAMPLE key seven times. [ dAtE 0 ] will be displayed.

   6 Change the date display order as follows:

   - YMD: Leave as is. [ dAtE 0 ]
   - MDY: Press the RE-ZERO key once. [ dAtE 1 ]
   - DMY: Press the RE-ZERO key twice. [ dAtE 2 ]

   7 Press the PRINT key.

   8 Turn the display off.

## Upgrade the ROM

1. Open the upper case and replace the ROM on the logic board.
2. Perform the adjustment as required.
3. If "initialization" is specified, perform the initialization as follows:
   1 Verify that the display is off.
   2 Press and hold the RE-ZERO and MODE keys and momentarily press the ON/OFF key. Release the MODE and ON/OFF keys while holding the RE-ZERO key. Immediately press the MODE key twice.
   3 Check that the unit type is displayed. e.g. [ 1.00 3000 HX ]
   4 Press the RE-ZERO key. [ C-0 ] will be displayed.
   5 Press the MODE key seven times. [ init-HF ] will be displayed.
   6 Press the RE-ZERO key. [ ---- ] will be displayed for a few seconds.
   7 Check that the display returns to [ C-0 ].
   8 Turn the display off.

### Adjustment after Logic Board Replacement

1. PZ:2598 → PZ:2598 (early version replaced by same version)

The clock IC must be initialized after the logic board replacement.

This is normally done by the initial setting. If the logic board is replaced after the adjustment has started, perform the initialization as follows:

   1 Verify that the display is off.
   2 Press and hold the RE-ZERO and MODE keys and momentarily press the ON/OFF key. Release the MODE and ON/OFF keys while holding the RE-ZERO key. Immediately press the MODE key twice.
   3 Check that the unit type is displayed. e.g. [ 1.00 3000 HX ]
   4 Press the RE-ZERO key. [ C-0 ] will be displayed.
   5 Press the MODE key eight times. [ init-CL ] will be displayed.
   6 Press the RE-ZERO key. [ ---- ] will be displayed for a few seconds.
   7 Check that the display returns to [ C-0 ]
   8 Turn the display off.

2. PZ:2598 → PZ:2497 (early version replaced by later version).

The A/D count for the later version is not the same as the early version.

Setup procedure is as follows:

   1 Linearity setting.
   2 Auto CAL.

After changing from a PZ:2598 to a PZ:2497, Set the linearity and perform calibration. Do a complete performance check.

# 5.12 Adjustment Specifications

### Repeatability

Perform the repeatability check in the check mode.

Perform it with D6 displayed for HX-100 and HX-400, and with D5 displayed for HX-3000 and HX-6000.

1 Place the calibration mass on the pan then remove it. Repeat this five times.

2 The difference between the values at the zero point and with calibration mass placed on the pan (lowest and highest values) must be within the specifications.

| Unit type | Calibration mass used | Specifications |
|---|---|---|
| HX100 | 100g | 2 counts |
| HX400 | 400g | 2 counts |
| HX3000 | 3kg | 4 counts |
| HX6000 | 6kg | 4 counts |

### Linearity/Hysteresis

Perform the linearity and hysteresis check in the check mode with D6 displayed.

1 Add and remove the calibration masses specified in the following table and check the linearity and hysteresis.

| Unit type | Calibration mass used | | | | Specifications | |
|---|---|---|---|---|---|---|
| | | | | | Linearity | Hysteresis |
| HX100 | 0g | 50g | 100g | | ±2 | ±3 |
| HX400 | 0g | 200g | 400g | | ±2 | ±3 |
| HX3000 | 0kg | 1kg | 2kg | 3kg | ±2 | ±3 |
| HX6000 | 0kg | 2kg | 4kg | 6kg | ±1 | ±2 |

## Internal Weight Repeatability

Perform the internal weight repeatability check in the normal weighing mode.

1 Press the CAL key to perform internal weight calibration.

2 Place the calibration mass specified in the table below on the pan and record the displayed value.

3 Repeat steps 1 and 2 five times.

4 All five of the differences between the displayed values and the true values must be within the specifications.

Absolute value (displayed value - true value) $\leqq$ D represents the following specifications:

| Unit type | Calibration mass used | Specifications |
|---|---|---|
| HX100 | 100g | ± 1 count |
| HX400 | 400g | ± 1 count |
| HX3000 | 3kg | ± 1 count |
| HX6000 | 6kg | ± 1 count |

## Creep Characteristics

Perform the creep characteristics check in the check mode with D6 displayed.

1 Press the RE-ZERO key to display 0.

2 Place the calibration mass specified in the table below on the pan and record the displayed value. This value is to be the initial value.

3 Leave the calibration mass for five minutes, then read the displayed value.

4 The difference between the initial value and the value after five minutes must be within the specifications.

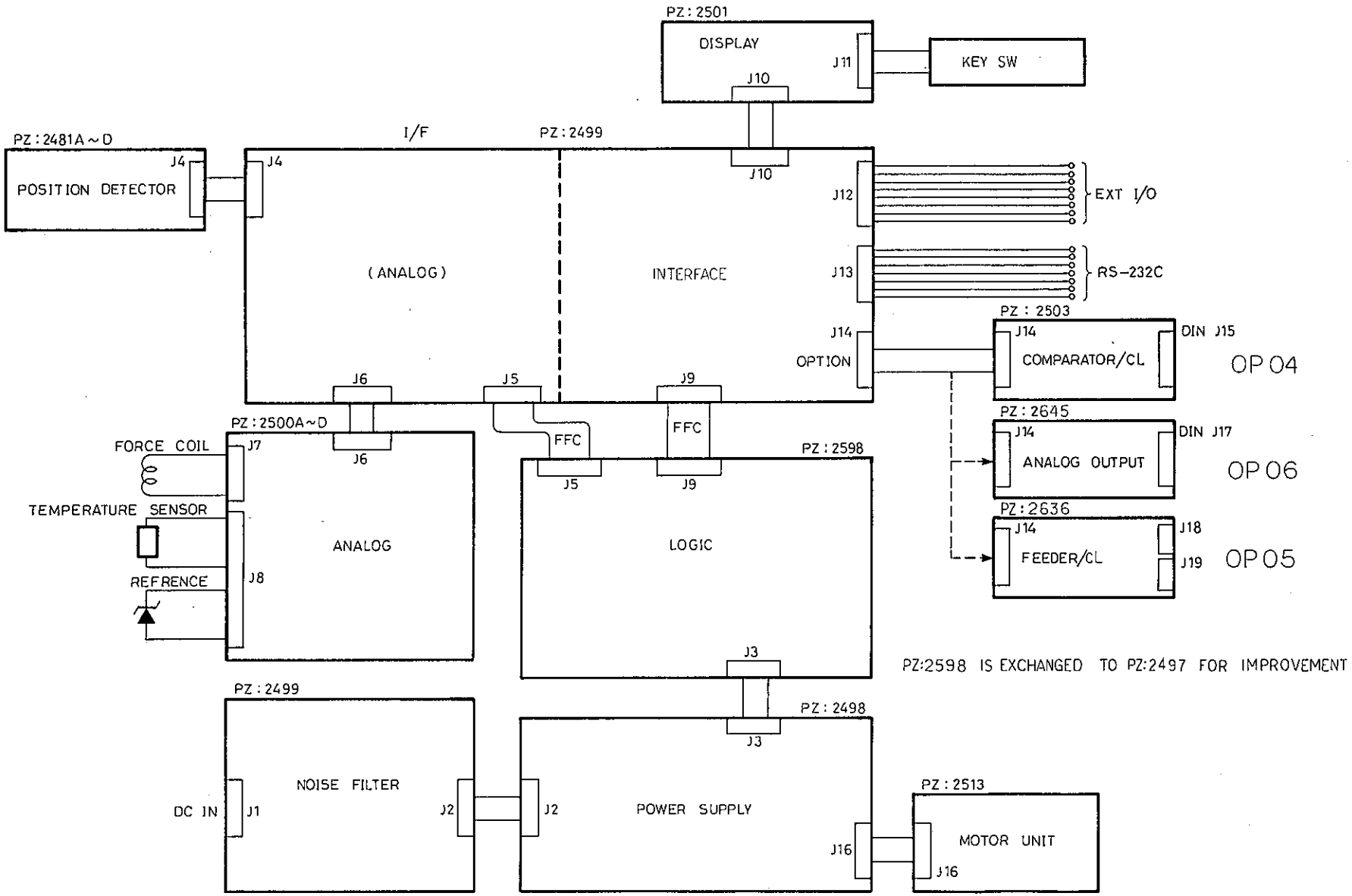
| Unit type | Calibration mass used | Specifications |
|---|---|---|
| HX100 | 100g | ± 3 counts |
| HX400 | 400g | ± 3 counts |
| HX3000 | 3kg | ± 3 counts |
| HX6000 | 6kg | ± 3 counts |

## Cornerload Error

The difference between the values at the center and the four corners must be within the specifications.

The difference between the diagonal corners must be within 2 counts for HX-6000.

| Unit type | Calibration mass used | Specifications |
|---|---|---|
| HX100 | 50g | ± 2 counts |
| HX400 | 200g | ± 2 counts |
| HX3000 | 2kg | ± 2 counts |
| HX6000 | 5kg | ± 2 counts |




PZ:2598 IS EXCHANGED TO PZ:2497 FOR IMPROVEMENT

| | | | | Model | HX Series |
|---|---|---|---|---|---|
| Symbol | Date | By | Revision No. | Description | Block Diagram |
| | | | | Stock No. | |
| | | | | Drwg No. | |

# ELECTRONIC PARTS LIST

# P Z : 2 4 9 7

| CIRCUIT SYMBOL | PARTS NAME | DESCRIPTION | Q'TY |
|---|---|---|---|
| C4,7,8 | CC:100P | CAPACITOR 100pF 50V | 3 |
| C1,2,6 | CC:FK16Y5V1H104 | CAPACITOR 0.1μF | 3 |
| C3,5 | CT:1A4R7 | CAPACITOR 4.7uF/10V | 2 |
| D2 | DI:1SS53 | DIODE | 1 |
| D1 | DI:1SS97 | DIODE | 1 |
| | EB:CR2032-WT12 | BATTERY | 1 |
| J5,9 | JI:HLEM20R-1 | FPC CONECTOR | 2 |
| U2 | JS:10328-01-445 | IC SOCKET | 1 |
| J3 | KO:974-9-5 | CABLE | 1 |
| | PC:2497A | PRINTED CIRCUIT BOARD | 1 |
| R4,7 | RC:NAT1.2K | CARBON RESISTOR 1.2KΩ 1/4W | 2 |
| R2,13,14 | RC:NAT100K | CARBON RESISTOR 100KΩ 1/4W | 3 |
| R1 | RC:NAT2.2K | CARBON RESISTOR 2.2KΩ 1/4W | 1 |
| R3,5,6,8,9,10,11,12 | RC:NAT22K | CARBON RESISTOR 22KΩ 1/4W | 8 |
| R15,16,17,18 | RN:IHR-8-223MA | RESISTOR ARRAY 22KΩ | 4 |
| S1 | SS:2NB2X2AG | SLIDE SWITCH | 1 |
| U3 | UC:62421A | CLOCK IC | 1 |
| U1 | UC:D95017GF-3BA | CMOS CPU | 1 |
| U4 | UC:HC125F | CMOS IC | 1 |
| | XT:C4SB-12M-K02 | RESONATOR 12MHz | 1 |

# PZ : 2498

| CIRCUIT SYMBOL | PARTS NAME | DESCRIPTION | Q'TY |
|---|---|---|---|
| | 04:B48713 | HEAT SINK | 1 |
| | 07:B49887 | ISOLATION SHEET | 1 |
| C5 | CC:470P | CAPACITOR 470PF 50V | 1 |
| C1, 2, 3, 7, 10, 12, 13, 14 | CC:FK16Y5V1H104 | CAPACITOR 0.1μF | 8 |
| C6 | CK:SM50VB3R3 | CAPACITOR 3.3μF 50V | 1 |
| C8, 11 | CK:SME16VB220 | CAPACITOR 220μF 16V | 2 |
| C4, 15 | CK:SME25VB470 | CAPACITOR 470μF 25V | 2 |
| D4 | DF:PS2501-1L/K | PHOTO COUPLER | 1 |
| D2 | DI:1S1588 | DIODE | 1 |
| D3 | DI:SB10-03A2 | DIODE | 1 |
| D1 | DZ:05Z13 | ZENER DIODE | 1 |
| J16 | JI:05P-S2T2-EF | PIN HEADER | 1 |
| J3 | JI:09P-S2T2-EF | PIN HEADER | 1 |
| J2 | JI:2P-S2T2-EF | PIN HEADER | 1 |
| | PC:2498B | PRINTED CIRCUIT BOARD | 1 |
| | QA:AC256-1674 | RADIATOR | 1 |
| | QA:AC316A | WASHER | 1 |
| Q5 | QT:A1015Y | TRANSISTOR | 1 |
| Q2 | QT:C1173 | TRANSISTOR | 1 |
| Q1, 3, 4 | QT:C1815Y | TRANSISTOR | 3 |
| R5, 6 | RC:NAT1.2K | CARBON RESISTOR 1/4W 1.2KΩ | 2 |
| R10 | RC:NAT1.8K | CARBON RESISTOR 1.8KΩ 1/4W | 1 |
| R11 | RC:NAT10K | CARBON RESISTOR 10KΩ 1/4W | 1 |
| R8 | RC:NAT2.2K | CARBON RESISTOR 2.2KΩ 1/4W | 1 |
| R4, 7 | RC:NAT22K | CARBON RESISTOR 22KΩ 1/4W | 2 |
| R2, 3 | RC:NAT270R | CARBON RESISTOR 270Ω 1/4W | 2 |
| R1 | RC:NAT33K | CARBON RESISTOR 33KΩ 1/4W | 1 |
| R12 | RC:NAT8.2K | CARBON RESISTOR 8.2KΩ 1/4W | 1 |
| R9 | RC:NAT820R | CARBON RESISTOR 820Ω 1/4W | 1 |
| | TF:407 | TRANSFORMER | 1 |
| TP | TM:LC-2-G-0 | TEST PIN | 3 |
| U2 | UR:2410HF | REGURATOR | 1 |
| U1 | UR:PQ05RR1 | REGURATOR | 1 |

# PZ : 2499

| CIRCUIT SYMBOL | PARTS NAME | DESCRIPTION | Q'TY |
|---|---|---|---|
| | 04:A39220A | REAR PANEL | 1 |
| | 07:B48667B | OPTION BOARD GUIDE A | 1 |
| | 07:B49158A | OPTION BOARD GUIDE B | 1 |
| C3 | CC:0.001U | CAPACITOR 0.001uF 50V | 1 |
| C7,8,9,15,16 | CC:0.022U | CAPACITOR 0.01μF 500V | 5 |
| C6 | CC:0.1U25V | CAPACITOR 0.1μF 25V | 1 |
| C4 | CC:68P | CAPACITOR 68PF 50V | 1 |
| C14 | CK:SME35VB47 | CAPACITOR 47μF 35V | 1 |
| C10,11,12,13 | CK:SRA16VB-47 | CAPACITOR 47μF 16V | 4 |
| C1,2 | CM:E1106KN | CAPACITOR 10μF 50V | 2 |
| C5 | CT:1D2R2 | CAPACITOR 2.2μF 20V | 1 |
| D5 | DF:PS2501-1L/K | PHOTO DIODE | 1 |
| D1,2,3,4 | DI:1S1588 | DIODE | 4 |
| J1 | EJ:0470-01-230 | CONNECTOR | 1 |
| | FH:F-105 | FUSE HOLDER | 1 |
| FUSE | FS:EAWK-500MA | FUSE 500mA | 1 |
| J13 | JA:17LE-13250 | CONNECTOR | 1 |
| J12 | JA:TCS5076-18 | CONNECTOR | 1 |
| J10 | JA:TCS7930 | CONNECTOR | 1 |
| J6 | JI:543-0522-5 | CONNECTOR | 1 |
| J14 | JI:BS10P-SHF1AA | CONNECTOR | 1 |
| J5,9 | JI:HLEM20S-1 | CONNECTOR | 2 |
| J2 | KO:974-2-30 | CABLE | 1 |
| J4 | KO:974-5-10 | CABLE | 1 |
| L1,2 | LL:LHLC06NB470K | COIL | 2 |
| L4 | NF:D-42C | COIL | 1 |
| L3,5 | NF:D-58C | COIL | 2 |
| | PC:2499B | PRINTED CIRCUIT BOARD | 1 |
| Q4 | QF:K30ATM-GR | FET TRANSISTOR | 1 |
| Q3 | QF:K701 | POWER MOS FET | 1 |
| Q1 | QT:A1153 | TRANSISTOR | 1 |
| Q2 | QT:C2901 | TRANSISTOR | 1 |
| R7 | RC:NAT10K | CARBON RESISTOR 10KΩ 1/4W | 1 |
| R1,2 | RC:NAT1K | CARBON RESISTOR 1KΩ 1/4W | 2 |
| R6,9 | RC:NAT2.2K | CARBON RESISTOR 2.2KΩ 1/4W | 2 |
| R8 | RC:NAT3.3K | CARBON RESISTOR 3.3KΩ 1/4W | 1 |
| R3,4 | RC:NAT4.7K | CARBON RESISTOR 4.7KΩ 1/4W | 2 |
| R5 | RC:NAT470R | CARBON RESISTOR 470Ω 1/4W | 1 |
| U1 | UC:MAX232CPE | PS-232C DRIVER/RECEIVER | 1 |

# P Z : 2 5 0 1

| CIRCUIT SYMBOL | PARTS NAME | DESCRIPTION | Q'TY |
|---|---|---|---|
| | 04:B48727 | HEAT SINK | 1 |
| | 06:B41182A | DISPLAY CUSHION SHEET | 2 |
| C5 | CC:470P | CAPACITOR 470PF 50V | 1 |
| C1,3,4,7,9,11,12,13 | CC:FK16Y5V1H104 | CAPACITOR 0.1μF | 8 |
| C8,14 | CK:SRA16VB100 | CAPACITOR 100μF 16V | 2 |
| C2 | CK:SRA35VB-47 | CAPACITOR 47μ 35V | 1 |
| C10 | CK:SRA50VB-22 | CAPACITOR 22μF 50V | 1 |
| C6 | CK:SRA50VB-3.3 | CAPACITOR 3.3μF 50V | 1 |
| D2,4 | DI:1S1588 | DIODE | 2 |
| D3 | DI:1SS131 | DIODE | 1 |
| D1 | DZ:05Z9.1 | ZENOR DIODE | 1 |
| D5 | DZ:RD3.6EB | ZENOR DIODE | 1 |
| VFD | ED:FIP10BM11 | FLUORESCENT DISPLAY | 1 |
| U1 | ET:IS1U60L | REMOTE SENSOR | 1 |
| BZ | ET:MEB-12C-5 | BUZZER | 1 |
| J10 | JI:543-0519-0 | CABLE | 1 |
| J11 | JI:HLEM7R-1 | FPC CONNECTOR | 1 |
| L1 | NF:D-58C | COIL | 1 |
| | PC:2501B | PRINTED CIRCUIT BOARD | 1 |
| Q3 | QT:BA1A4P | TRANSISTOR | 1 |
| Q2 | QT:C1173 | TRANSISTOR | 1 |
| Q1 | QT:C1815Y | TRANSISTOR | 1 |
| R7,8 | RC:NAT1K | CARBON RESISTOR 1KΩ 1/4W | 2 |
| R2,3 | RC:NAT22K | CARBON RESISTOR 22KΩ 1/4W | 2 |
| R5,6 | RC:NAT270R | CARBON RESISTOR 270Ω 1/4W | 2 |
| R4 | RC:NAT33K | CARBON RESISTOR 33KΩ 1/4W | 1 |
| R10 | RC:NAT5.6K | CARBON RESISTOR 5.6KΩ 1/4W | 1 |
| R9 | RC:NAT560R | CARBON RESISTOR 560KΩ 1/4W | 1 |
| | TF:407 | TRANSFORMER | 1 |
| TM VH,VDD,GND | TM:LC-2-G-0 | TEST PIN | 3 |
| U2 | UA:S-8054ALR | VOLTAGE COMPARATOR | 1 |
| U3 | UC:75004GB-726 | MICRO PROCESSOR | 1 |
| U4,5 | UC:MSC1164GS | 20BIT VFD DRIVER | 2 |
| XT | XT:KBR4.0MKSTR | RESONATOR 4.0MHz | 1 |

# PZ : 2503

| CIRCUIT SYMBOL | PARTS NAME | DESCRIPTION | Q'TY |
|---|---|---|---|
| | 04:B48691 | OPTION-04 PLATE | 1 |
| | 05:B49548 | OPTION HANDLE | |
| U1, 2, 3 | DF:AQV253 | PHOTO MOS RELAY | 3 |
| D1 | DF:PS2403-1 | PHOTO COUPLER | 1 |
| D2 | DI:1B4B42 | DIODE BRIDGE | 1 |
| J15 | JA:TCS5076-17 | CONNECTOR DIN | 1 |
| J14 | JS:F10P-SHVQ | IC SOCKET | 1 |
| PC | PC:2503A | PRINTED CIRCUIT BOARD | 1 |
| Q1 | QT:BA1A4P | TRANSISTOR | 1 |
| Q2 | QT:C1815Y | TRANSISTOR | 1 |
| R5 | RC:NAT1K | CARBON RESISTOR 1KΩ 1/4W | 1 |
| R1, 2, 3 | RC:NAT3.3K | CARBON RESISTOR 3.3KΩ 1/4W | 3 |
| R4 | RC:NAT5.6K | CARBON RESISTOR 5.6KΩ 1/4W | 1 |

# PZ : 2513

| CIRCUIT SYMBOL | PARTS NAME | DESCRIPTION | Q'TY |
|---|---|---|---|
| | 04:B40464 | SHAFT STOP | 1 |
| | 04:B48672 | MOTOR HOLDER SUPPORT | 1 |
| | 05:B46148 | CAM SHAFT | 1 |
| | 05:B47178 | BLIND NUT STOPPER | 3 |
| | 07:B40278 | SHAFT HOLDER SUPPORT | 1 |
| | 07:B47133A | LEVER ASSY,STOP | 1 |
| | 09:B40470C | SWITCHING CAM | 1 |
| | 10:A35234 | GEARED MOTOR | 1 |
| | 10:C-330L | BLIND NUT | 3 |
| C1 | CC:0.01U | CAPACITOR 0.01μF | 1 |
| D2 | DF:TLP809 | PHOTO INTERRUPTER | 1 |
| D1 | DI:1S1588 | DIODE | 1 |
| | KO:974-5-10 | CABLE | 1 |
| | PC:2513A | PRINTED CIRCUIT BOARD | 1 |
| Q1 | QT:C1815Y | TRANSISTOR | 1 |
| R1,2 | RC:NAT2.2K | RESISTOR 2.2KΩ 1/4W | 2 |

# PZ : 2598

| CIRCUIT SYMBOL | PARTS NAME | DESCRIPTION | Q'TY |
|---|---|---|---|
| C1, 2, 3 | CC:100P | CERAMIC CAPACITOR 100pF 50V | 3 |
| C4～12 | CC:FK16Y5V1H104 | CERAMIC CAPACITOR 0.1μF | 9 |
| C13 | CT:1A4R7 | TANTALUM CAPACITOR 4.7μF | 1 |
| D2 | DI:1SS53 | DIODE | 1 |
| D1 | DI:1SS97 | DIODE | 1 |
| BATT | EB:CR2032-WT12 | LITHIUM BATTERY | 1 |
| J5, 9 | JI:HLEM20R-1 | FPC CONECTOR | 2 |
| U6 | JS:10328-01-445 | IC SOCKET | 1 |
| J3 | KO:964-09S005 | | 1 |
| R2, 3, 4 | RC:NAT100K | CARBON RESISTOR 100KΩ 1/4W | 3 |
| R8 | RC:NAT2.2K | CARBON RESISTOR 2.2KΩ 1/4W | 1 |
| R6 | RC:NAT220R | CARBON RESISTOR 220Ω 1/4W | 1 |
| R5, 9～16 | RC:NAT22K | CARBON RESISTOR 220KΩ 1/4W | 9 |
| R1, 7 | RN:IHR-8-223MA | RESISTOR NETWORK 22KΩ×8 | 2 |
| U5 | UC:5518CFL | CMOS TC5518CFL-15 | 1 |
| U7 | UC:62421A | CLOCK IC | 1 |
| U2, 3 | UC:D65013GC-388 | GATE ARRAY | 2 |
| U1 | UC:D78C10G-1B | CPU | 1 |
| U8 | UC:HC125F | CMOS IC | 1 |
| U4 | UC:HC573F | CMOS IC | 1 |
| U9 | UC:HC74F | CMOS IC | 1 |
| | XT:C4SB-12M-K02 | RESONATOR 12MHz | 1 |

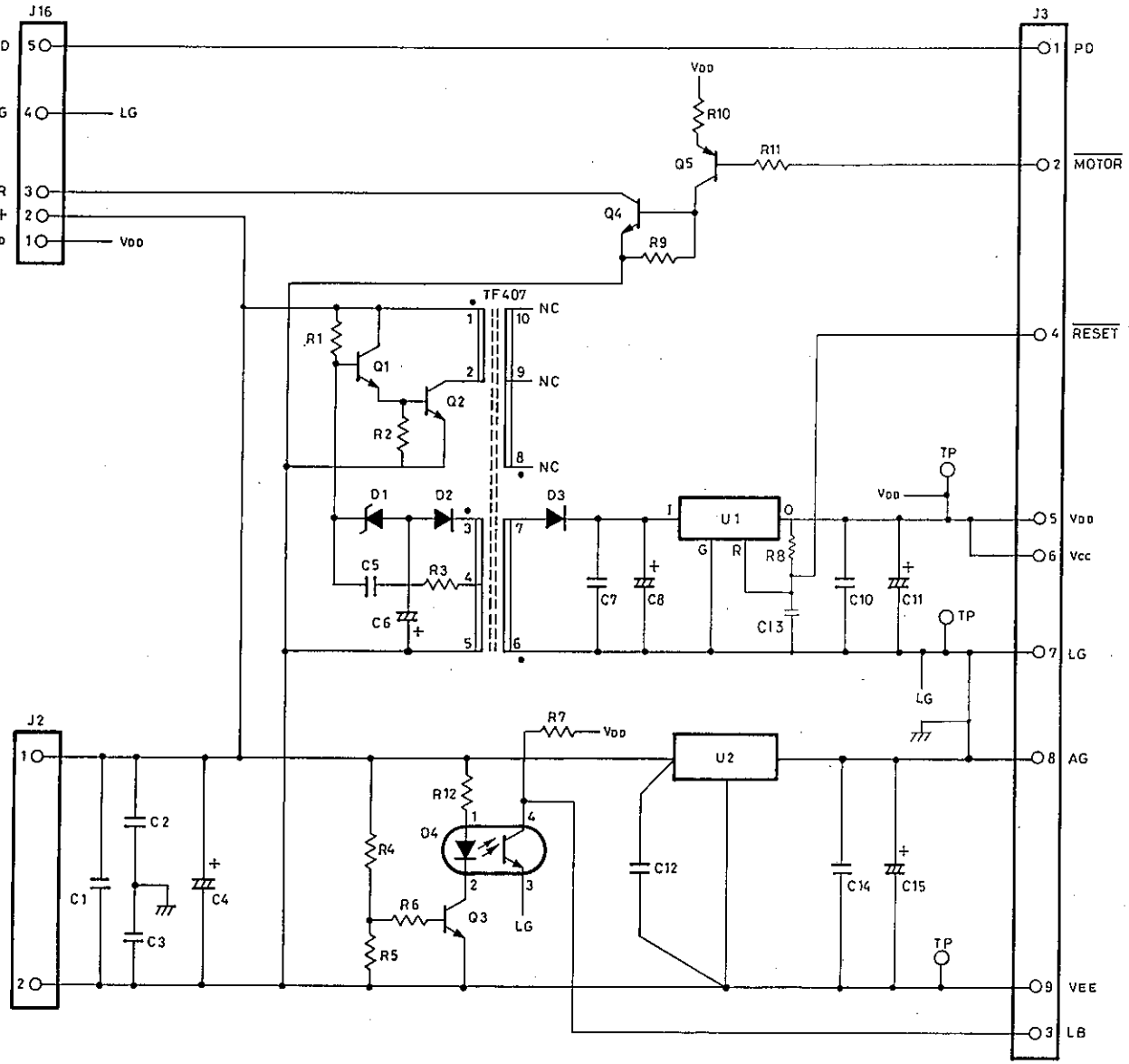
# P Z : 2 6 3 6

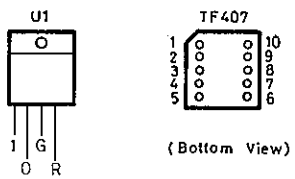
| CIRCUIT SYMBOL | PARTS NAME | DESCRIPTION | Q'TY |
|---|---|---|---|
| | 04:C40731A | OPTION PLATE | 1 |
| | 05:B49548 | OPTION HANDLE | 1 |
| C1,2 | CC:0.01U | CAPACITOR 0.01μF | 2 |
| C3 | CT:1A4R7 | TANTALUM CAPACITOR 4.7μF 10V | 1 |
| D5 | DF:PS-2403-1 | PHOTO COUPLER | 1 |
| D3,4 | DF:PS2501-1L/K | PHOTO DIODE | 2 |
| D6 | DI:1B4B42 | DIODE BRIDGE | 1 |
| D1,2 | DI:1S1588 | DIODE | 2 |
| | JA:TCP0576 | CONNETTOR, DIN | 1 |
| J19 | JA:TCS5076-17 | CONNECTOR, DIN | 1 |
| J18 | JE:HSJ0916-01 | CONNECTOR | 1 |
| | JE:T-314A | PLUG, 3 PIN | 1 |
| J14 | JS:F10P-SHVQ | IC SOCKET | 1 |
| L2 | NF:D-42C | COIL | 1 |
| L1 | NF:ZBF253D-01 | FERRITE BEADS | 1 |
| | PC:2636A | PRINTED CIRUCIT BOARD | 1 |
| Q1,5 | QT:BA1A4P | TRANSISTOR | 2 |
| Q2,3,4,6 | QT:C1815Y | TRANSISTOR | 4 |
| R7,8,11 | RC:NAT1K | CARBON RESISTOR 1KΩ 1/4W | 3 |
| R4,6,9 | RC:NAT2.2K | CARBON RESISTOR 2.2KΩ 1/4W | 3 |
| R5 | RC:NAT2.7K | CARBON RESISTOR 2.7KΩ 1/4W | 1 |
| R3,12 | RC:NAT3.3K | CARBON RESISTOR 3.3KΩ 1/4W | 2 |
| R10 | RC:NAT5.6K | CARBON RESISTOR 5.6KΩ 1/4W | 1 |
| R1 | RM:RNM10KF | METAL FILEM RESISTOR 10KΩ 1/4W | 1 |
| R2 | RM:RNM2.2KF | METAL FILEM RESISTOR 2.2KΩ 1/4W | 1 |

# P Z : 2 6 4 5

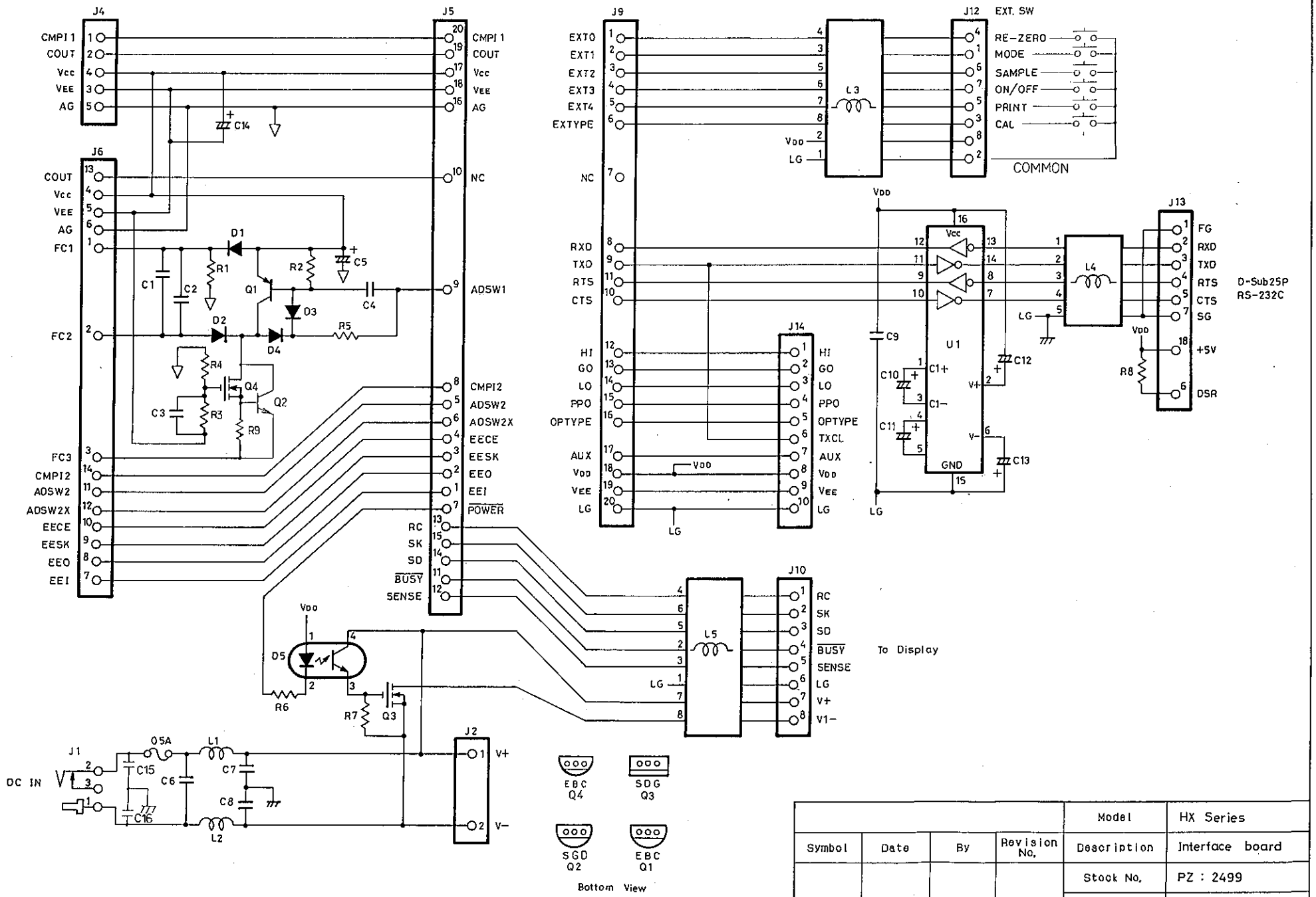
| CIRCUIT SYMBOL | PARTS NAME | DESCRIPTION | Q'TY |
|---|---|---|---|
| | 04:B49889A | OPTION PLATE | 1 |
| | 05:B49548 | OPTION HANDLE | 1 |
| | 10:NO1900PA50L | SCREW DRIVER | 1 |
| C5 | CC:0.01U | CAPACITOR 0.01μF | 1 |
| C3 | CC:470P | CAPACITOR 470PF 50V | 1 |
| C1,2,6,7,8 | CC:FK16Y5V1H104 | CAPACITOR 0.1μF | 5 |
| C4 | CT:1VR33 | TANTALUM CAPACITOR 0.33uF 35V | 1 |
| D1 | DZ:RD2.7EB1 | ZENER DIODE | 1 |
| | JA:TCP0576 | CONNETTOR DIN | 1 |
| J17 | JA:TCS5076-17 | CONNECTOR DIN | 1 |
| | JE:66464-102 | CONNECTOR, JUMPER | 2 |
| J14 | JS:F10P-SHVQ | IC SOCKET | 1 |
| JP1,2 | JT:65507-406 | CONNECTOR, PIN HEAD | 1 |
| | PC:2645 | PRINTED CIRUCIT BOARD | 1 |
| Q1 | QT:A1015Y | TRANSISTOR | 1 |
| Q2 | QT:C1815Y | TRANSISTOR | 1 |
| R9,10 | RC:NAT100K | CARBON RESISTOR 100KΩ 1/4W | 2 |
| R16 | RC:NAT10K | CARBON RESISTOR 10KΩ 1/4W | 1 |
| R14 | RC:NAT10R | CARBON RESISTOR 10Ω 1/4W | 1 |
| R8 | RC:NAT15K | CARBON RESISTOR 15KΩ 1/4W | 1 |
| R2,4 | RC:NAT22K | CARBON RESISTOR 22KΩ 1/4W | 2 |
| R12 | RC:NAT2K | CARBON RESISTOR 2KΩ 1/4W | 1 |
| R15 | RC:NAT3.3K | CARBON RESISTOR 3.3KΩ 1/4W | 1 |
| R18 | RC:NAT3.9K | CARBON RESISTOR 3.9KΩ 1/4W | 1 |
| R1,7 | RC:NAT47K | CARBON RESISTOR 470KΩ 1/4W | 2 |
| R6 | RC:NAT56K | CARBON RESISTOR 56KΩ 1/4W | 1 |
| R5 | RC:NAT6.8K | CARBON RESISTOR 6.8KΩ 1/4W | 1 |
| R11 | RC:NAT7.5K | CARBON RESISTOR 7.5KΩ 1/4W | 1 |
| R3 | RC:NAT82K | CARBON RESISTOR 82KΩ 1/4W | 1 |
| R19 | RM:RNM10KF | METAL FILM RESISTOR 10KΩ 1/4W | 1 |
| R20 | RM:RNM3.9KF | METAL FILM RESISTOR 3.9KΩ 1/4W | 1 |
| R13 | RV:V102 | POTENTIONMETER 100Ω | 1 |
| R17 | RV:V103 | POTENTIONMETER 10KΩ | 1 |
| U3 | UA:C4072C | OP AMP | 1 |
| U2 | UC:4016 | CMOS | 1 |
| U1 | UR:TL431CLPB | SWITCHING REGULATOR | 1 |

# *CIRCUIT DIAGRAMS*

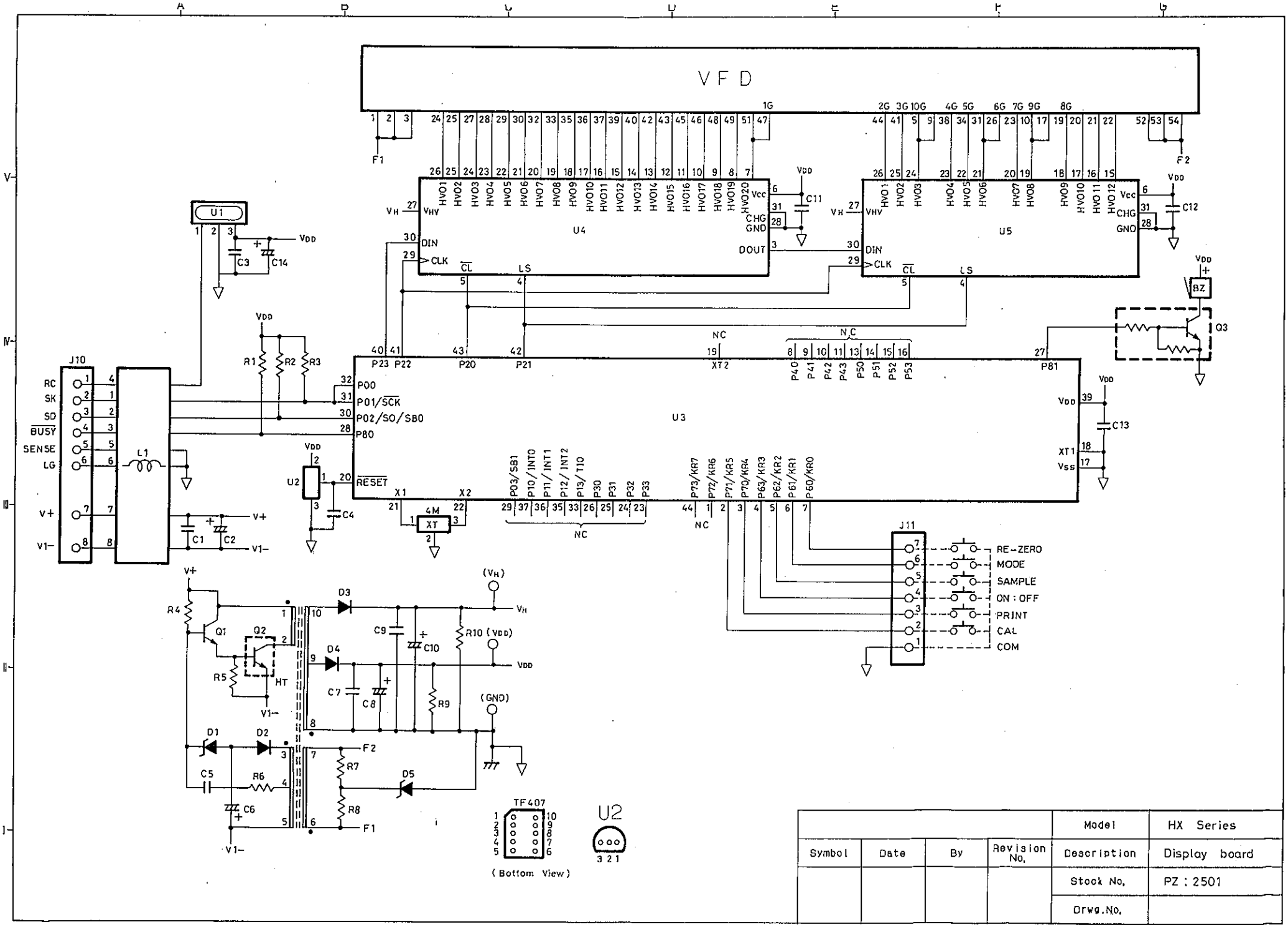


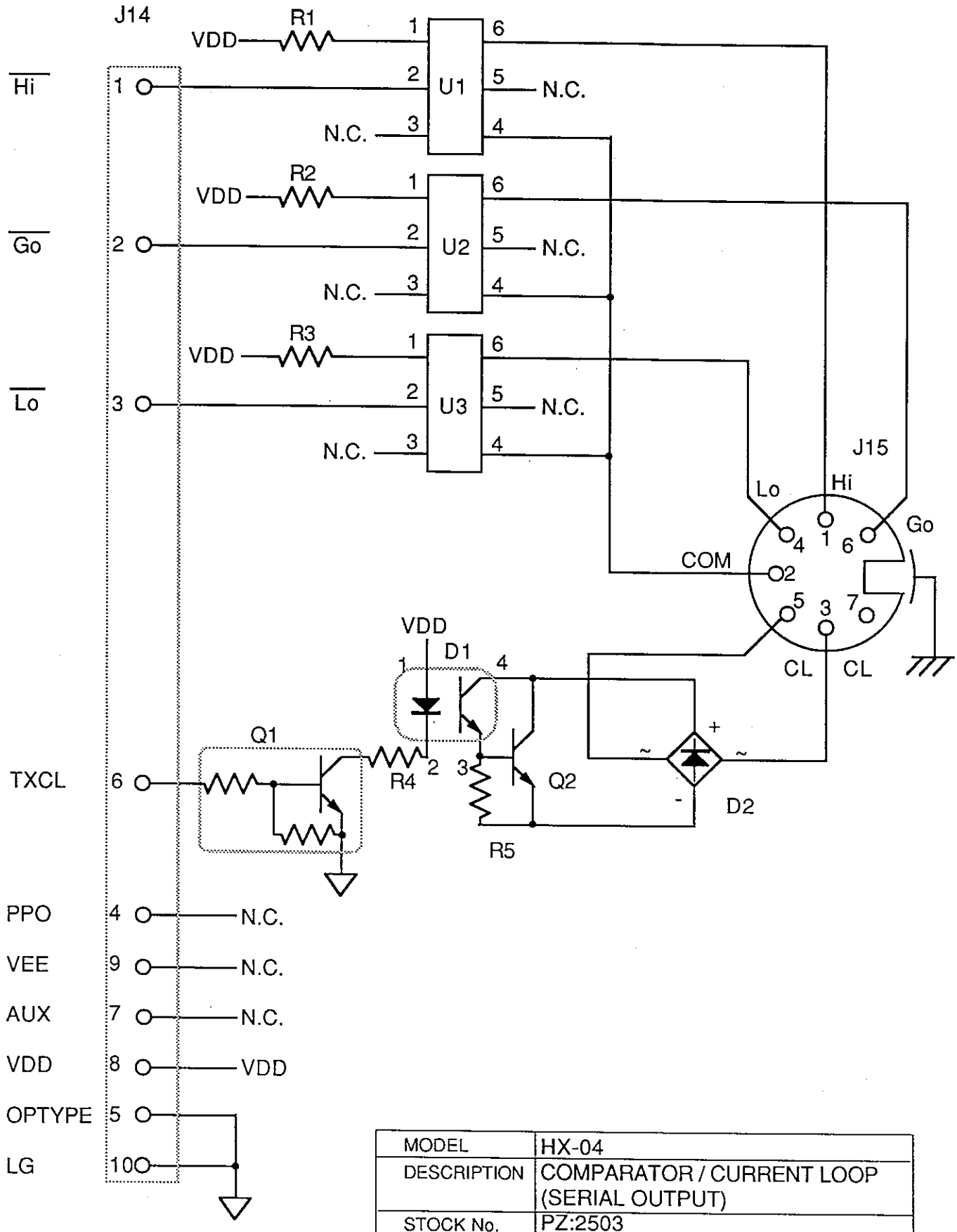

| | | | | Model | HX Series |
|---|---|---|---|---|---|
| Symbol | Date | By | Revision No. | Description | Power board |
| | | | | Stock No. | PZ:2498 |
| | | | | Drwg.No. | |



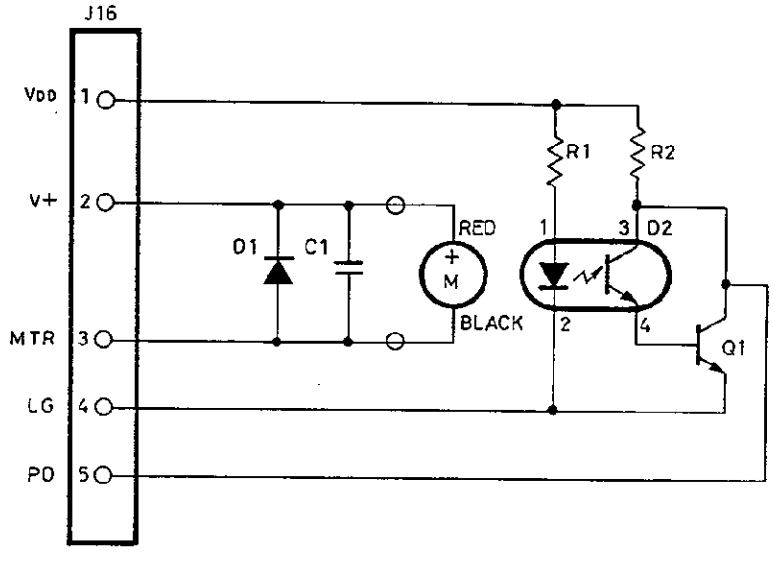

| | | | | Model | HX Series |
|---|---|---|---|---|---|
| Symbol | Date | By | Revision No. | Description | Interface board |
| | | | | Stock No. | PZ : 2499 |
| | | | | Drwg.No. | |



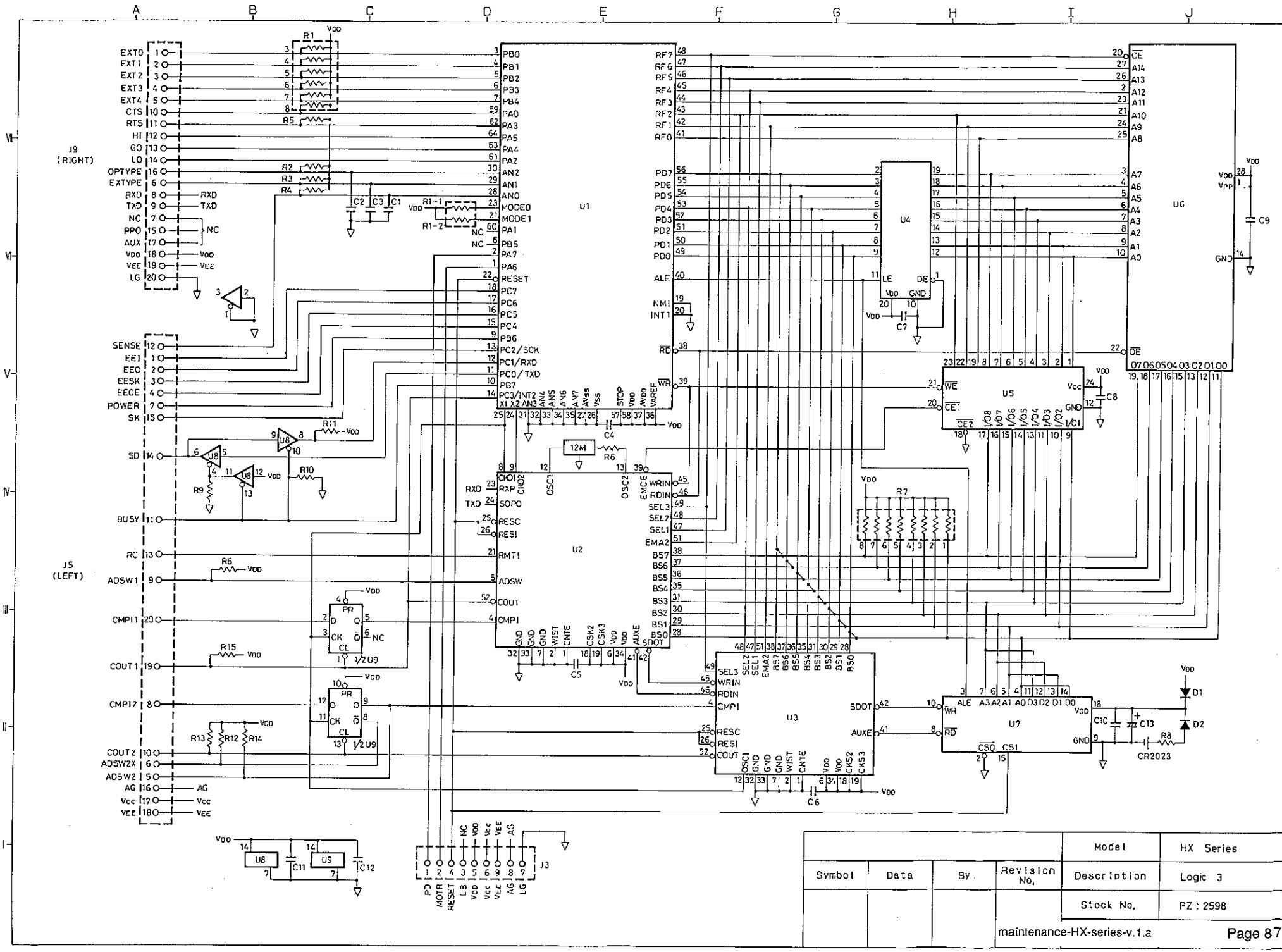

| | | | | Model | HX Series |
|---|---|---|---|---|---|
| Symbol | Date | By | Revision No, | Description | Display board |
| | | | | Stock No, | PZ : 2501 |
| | | | | Drwg.No, | |

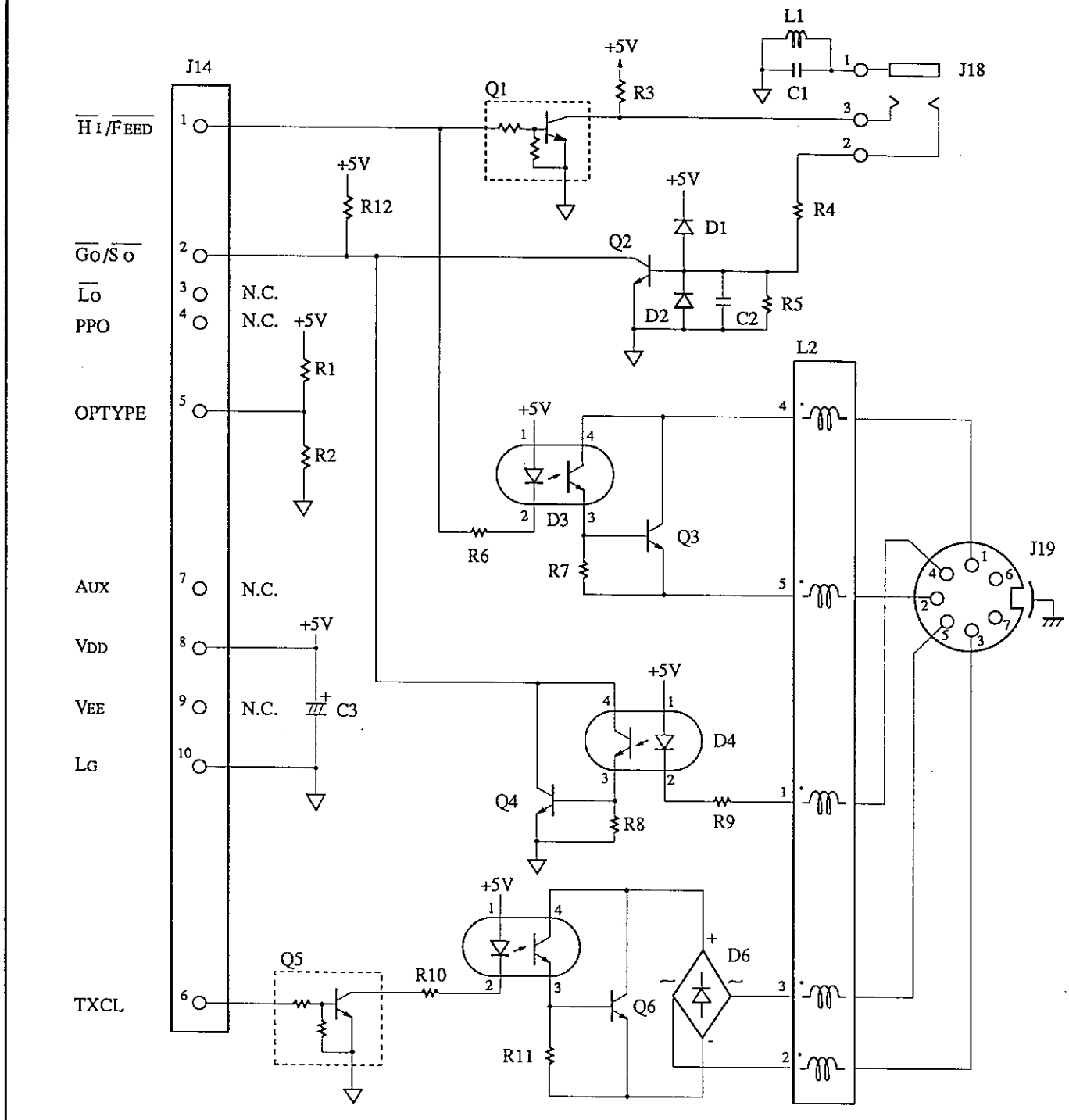



| | |
|---|---|
| MODEL | HX-04 |
| DESCRIPTION | COMPARATOR / CURRENT LOOP (SERIAL OUTPUT) |
| STOCK No. | PZ:2503 |
| DRWG.No. | |

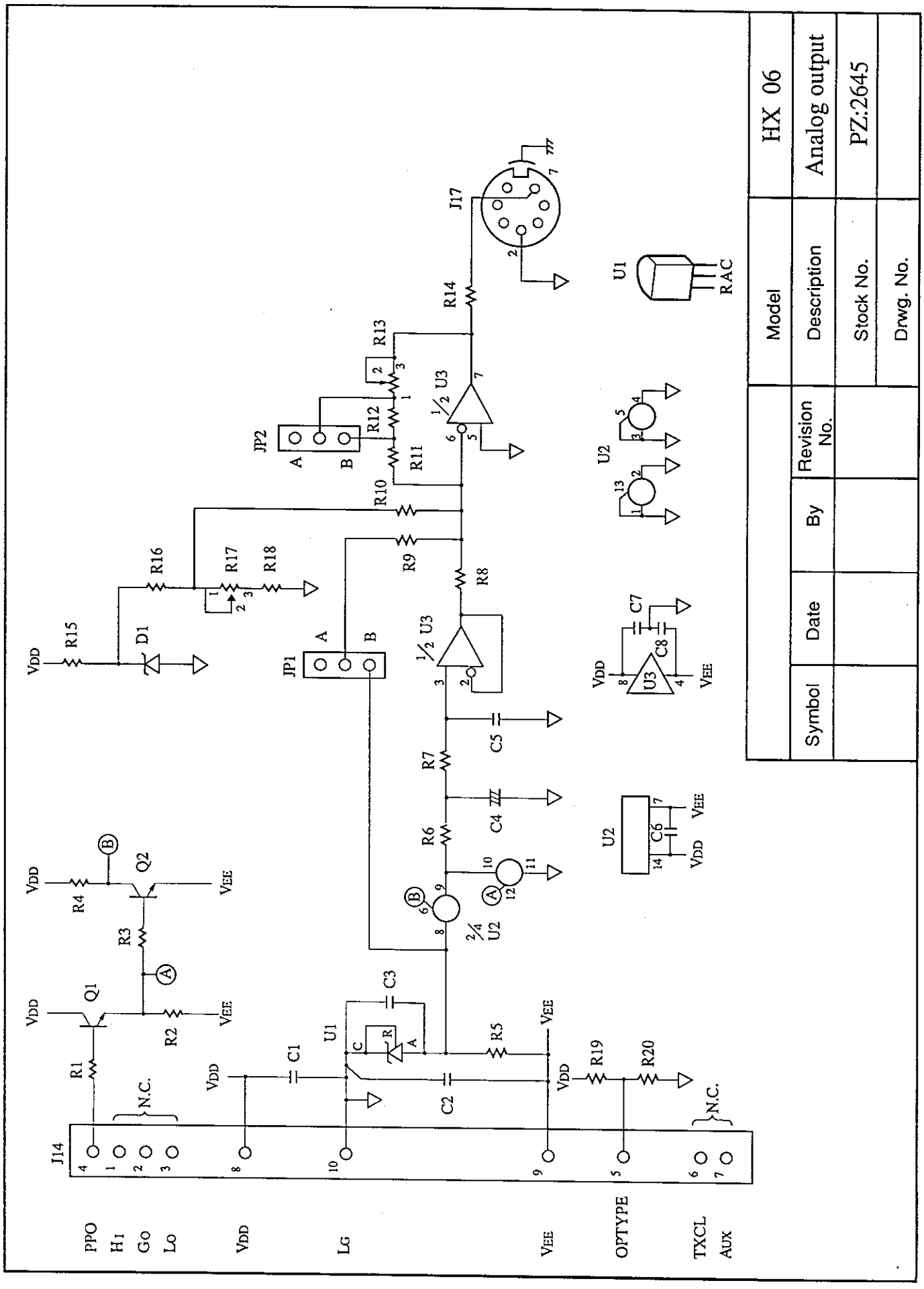



| | | | | Model | HX Series |
|---|---|---|---|---|---|
| Symbol | Date | By | Revision No. | Description | Motor board |
| | | | | Stock No. | PZ : 2513 |
| | | | | Drwg.No. | |


J9 (RIGHT)
J5 (LEFT)
U1
U2
U3
U4
U5
U6
U7
U8
U9
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
R1-1
R1-2
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
D1
D2
CR2023
12M
VDD
VEE
Vcc
VPP
GND
RXD
TXD
NC
AG
LG
SENSE
EEI
EEO
EESK
EECE
POWER
SK
SD
BUSY
RC
ADSW1
CMPI1
COUT1
CMPI2
COUT2
ADSW2X
ADSW2
PD
MOTR
RESET
LB
J3
Model
HX Series
Symbol
Data
By
Revision No.
Description
Logic 3
Stock No.
PZ : 2598
maintenance-HX-series-v.1.a
Page 87




| | | | | Model | HX-05 |
|---|---|---|---|---|---|
| Symbol | Date | By | Revision No. | Description | Feeder output |
| | | | | Stock No. | PZ:2636 |
| | | | | Drwg. No. | |


Model
HX 06
Description
Analog output
Stock No.
PZ:2645
Drwg. No.
Revision No.
By
Date
Symbol
J14
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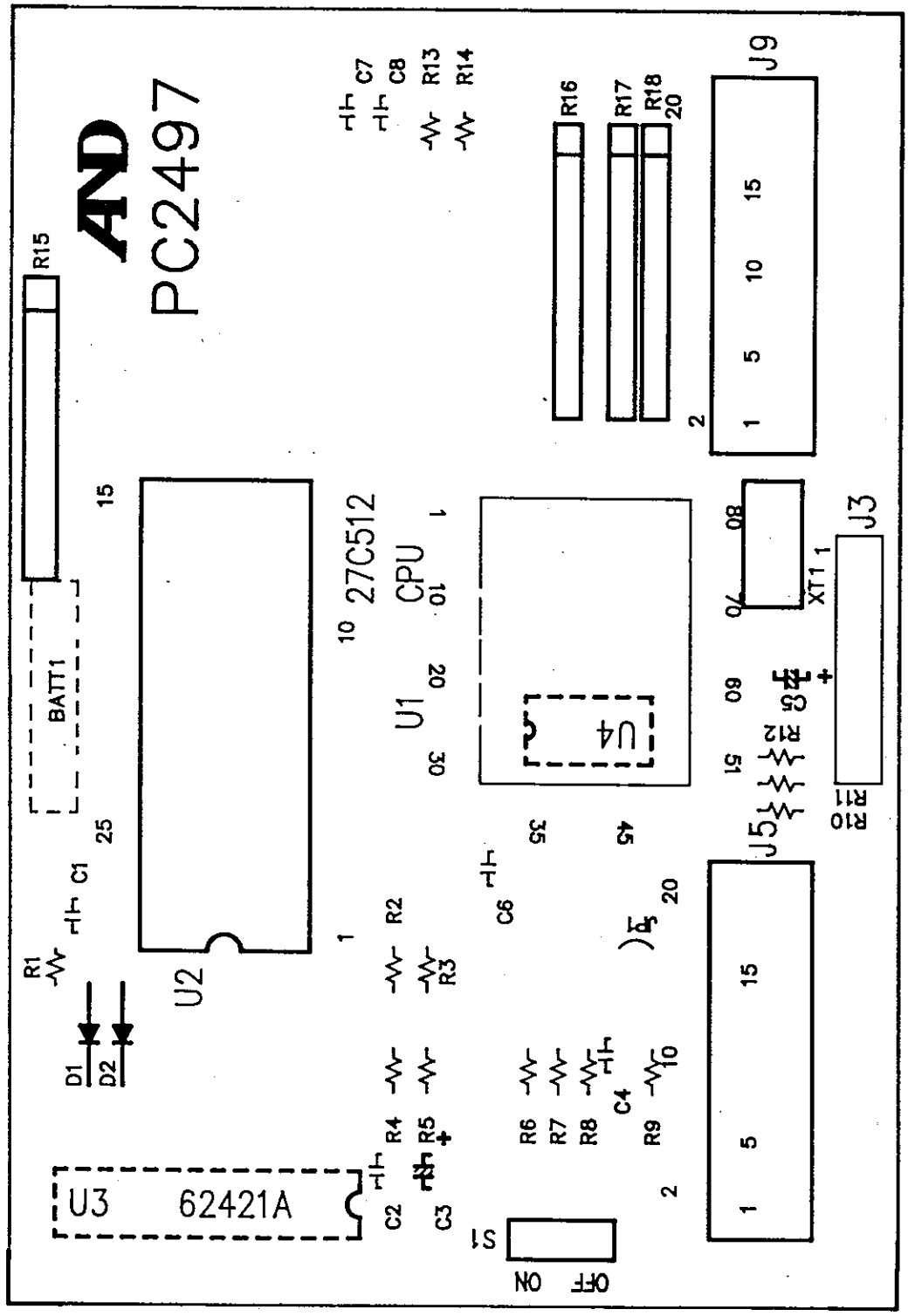
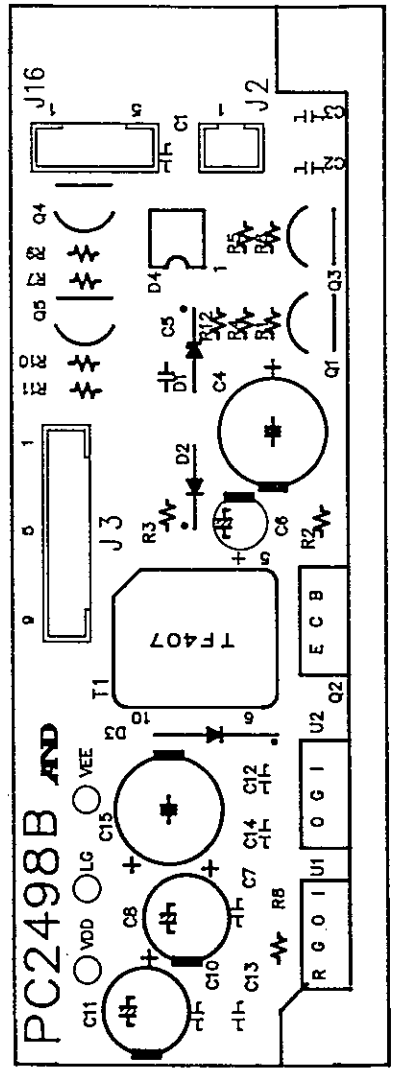
H1
Go
Lo
VDD
LG
VEE
OPTYPE
TXCL
AUX
N.C.
R1
R2
R3
R4
Q1
Q2
C1
C2
C3
U1
R5
R19
R20
D1
R15
R16
R17
R18
JP1
JP2
R8
R9
R10
R11
R12
R13
R14
J17
U3
C4
C5
R6
R7
C6
C7
C8
U2
RAC

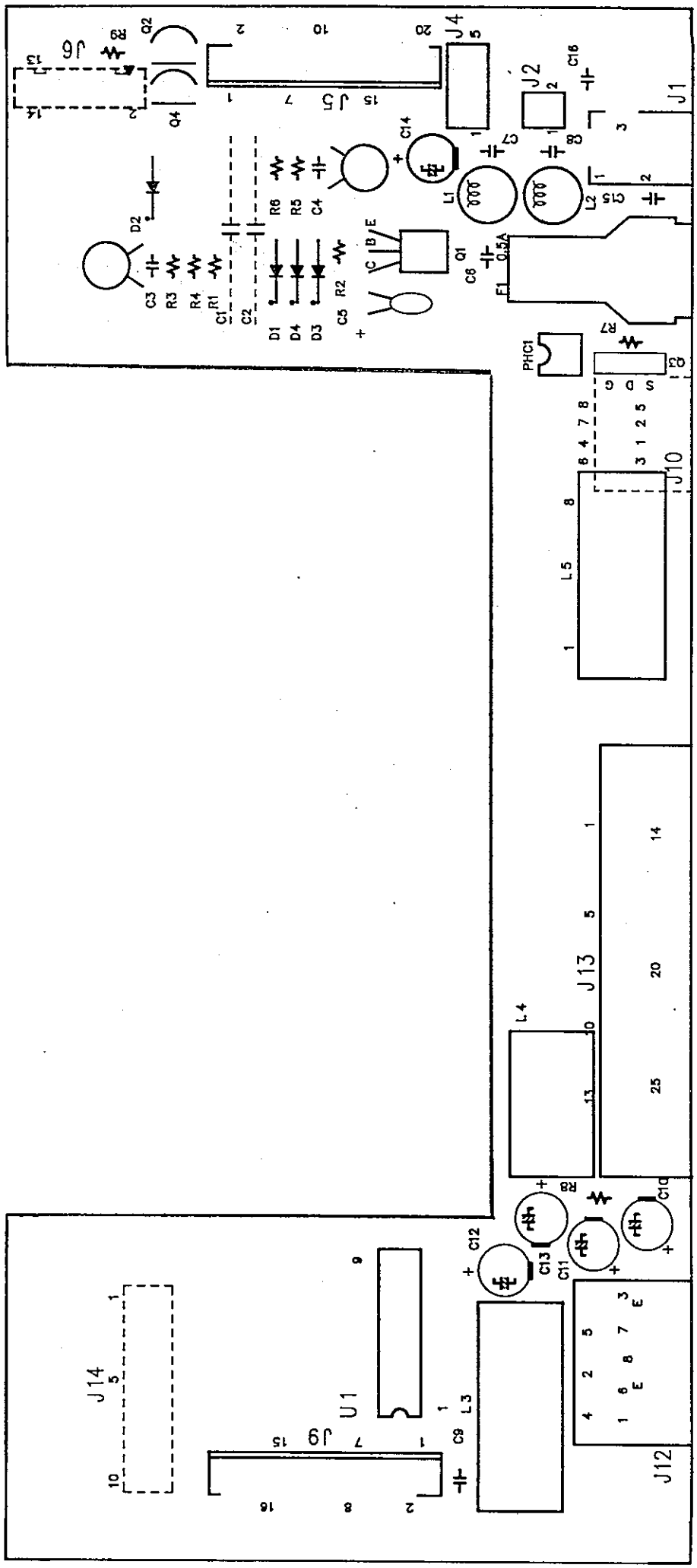
# *PARTS LAYOUT*

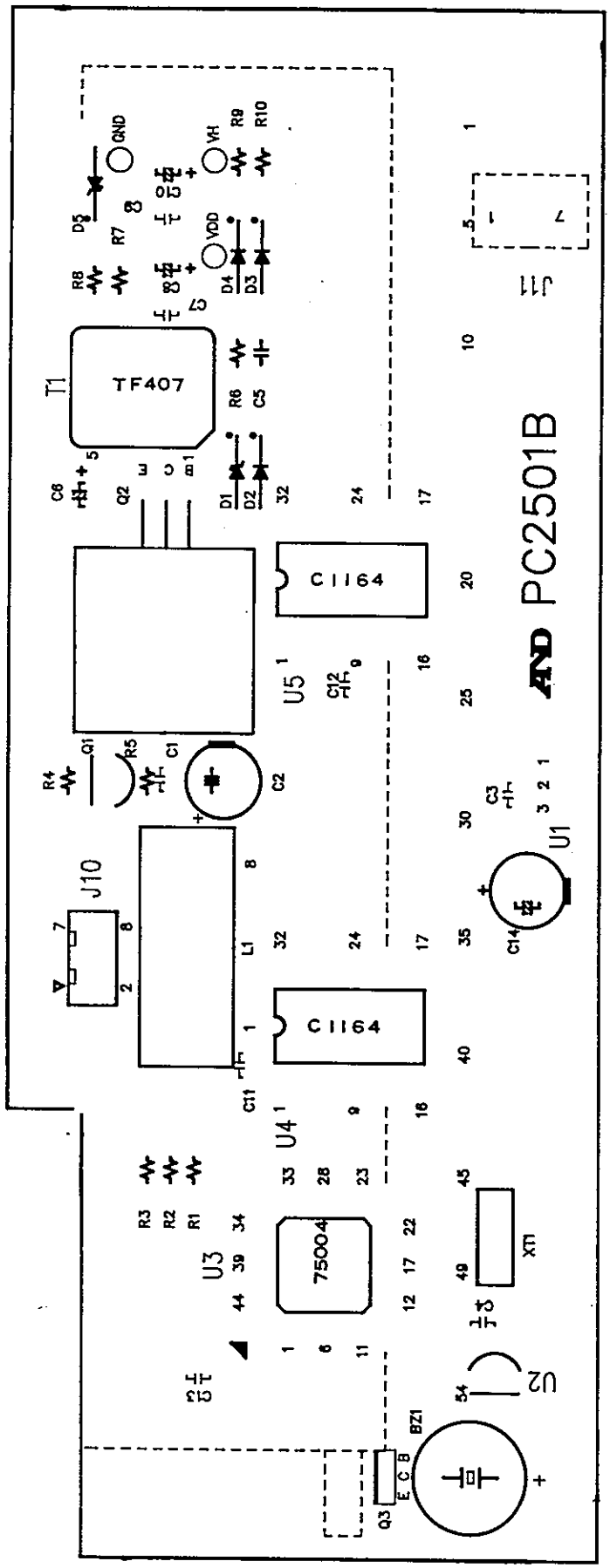

AND
PC2497
U2
U1
27C512
CPU
U4
U3
62421A
J9
J3
J5
BATT1
XT1
S1
ON
OFF

LOGIC BOARD

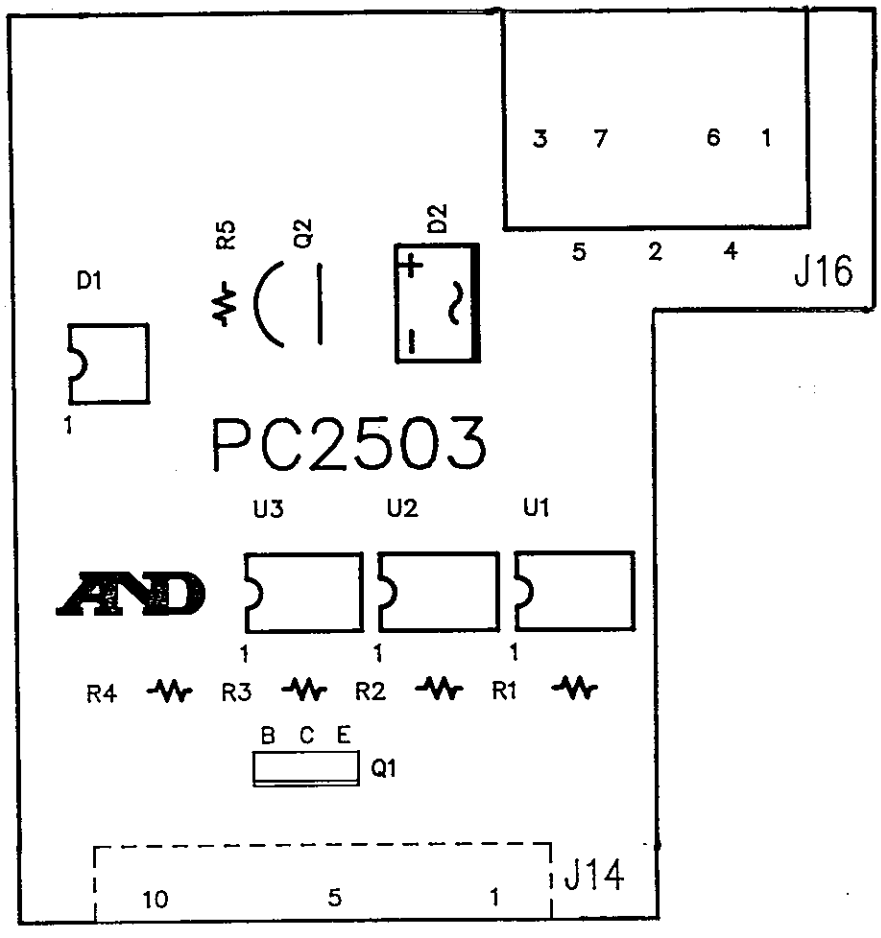



POWER SUPPLY BOARD

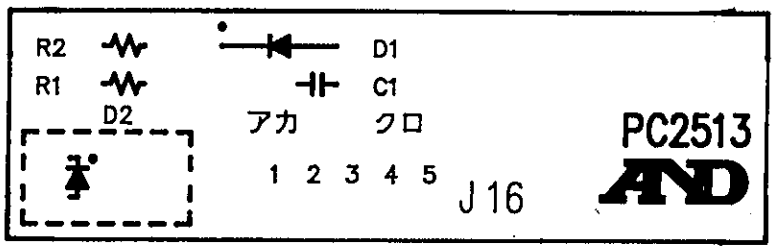

PZ:2499
INTERFACE BOARD
J1
J2
J4
J5
J6
J9
J10
J12
J13
J14
U1
Q1
Q2
Q4
D1
D2
D3
D4
R1
R2
R3
R4
R5
R6
R7
R8
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C13
C14
C15
C16
L1
L2
L3
L4
L5
F1
PHC1



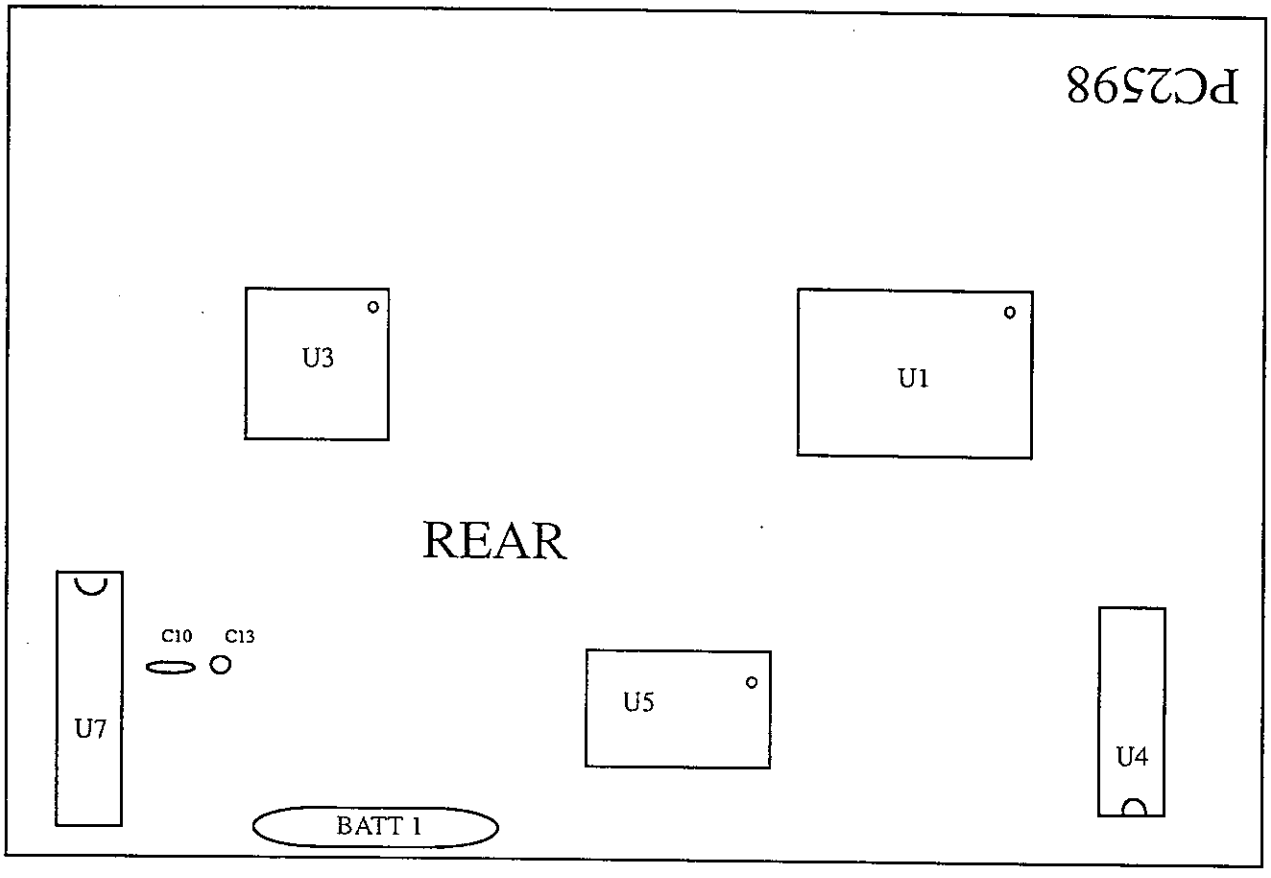

DISPLAY BOARD



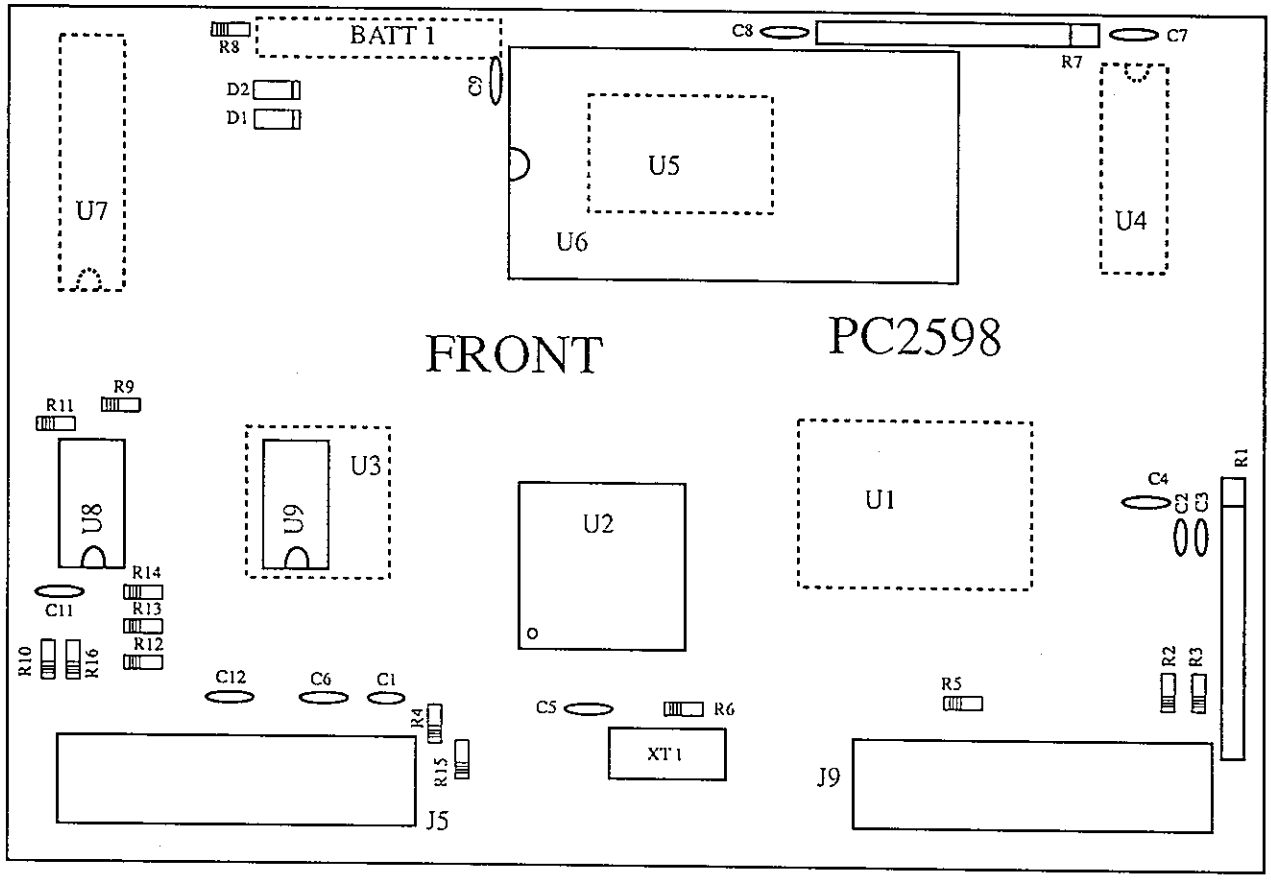

COMPARATOR BOARD

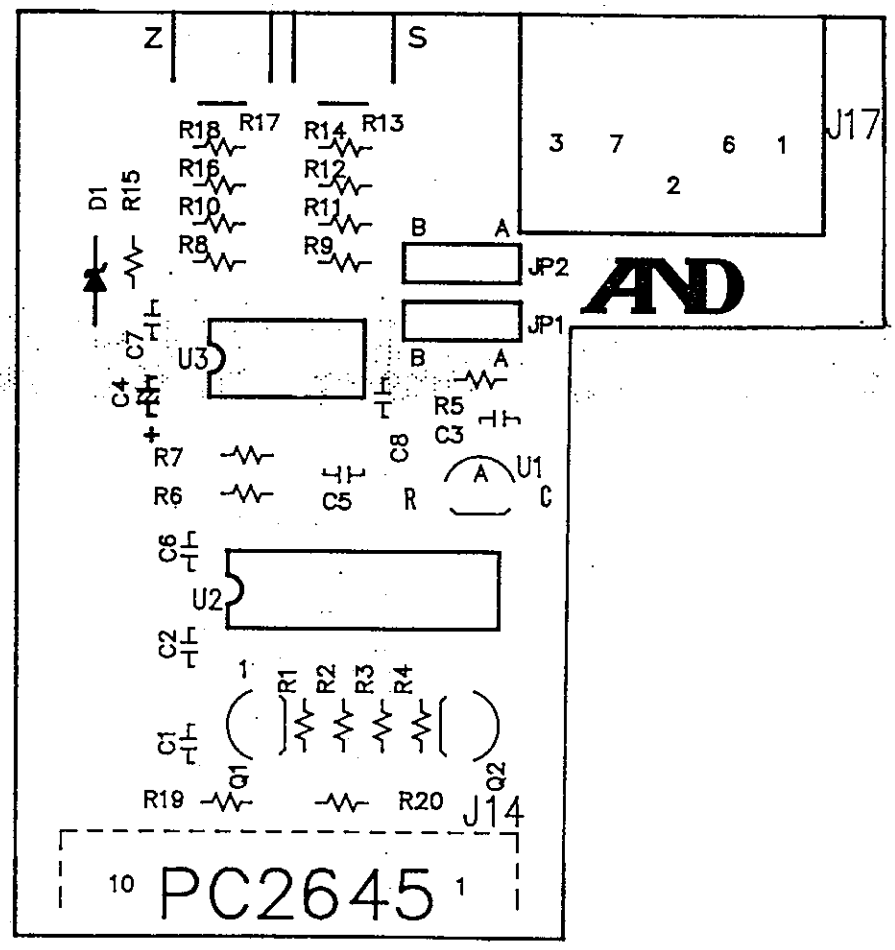



MOTOR BOARD

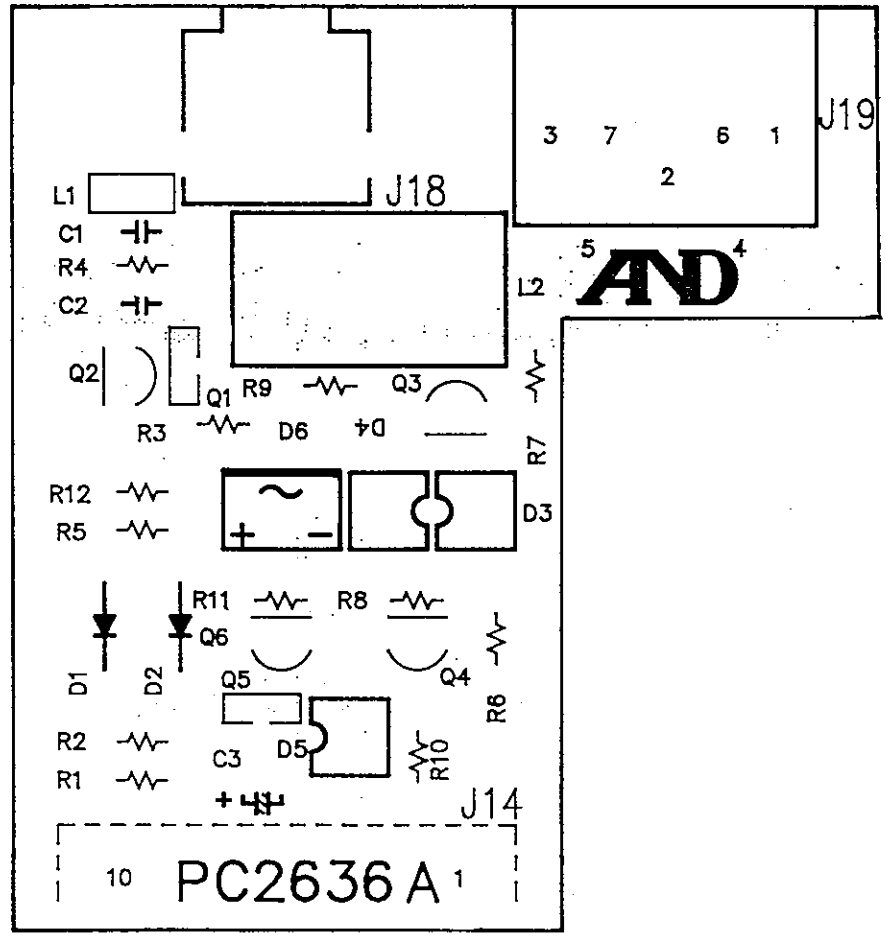

PC2598
U3
U1
REAR
U7
C10
C13
U5
U4
BATT 1

LOGIC BOARD


BATT 1
R8
D2
D1
C8
C7
R7
U7
U5
U6
U4
FRONT
PC2598
R11
R9
U8
U3
U9
U2
U1
C4
C2
C3
R1
C11
R14
R13
R12
R10
R16
C12
C6
C1
R4
R15
C5
R6
XT1
R5
R2
R3
J5
J9




| PCB Assembly | | | | Model | HX-06 |
|---|---|---|---|---|---|
| Symbol | Date | By | Revision No. | Description | Analog output |
| | | | | Stock No. | PZ:2645 |
| | | | | Drwg. No. | |




| PCB Assembly | | | | Model | HX-05 |
|---|---|---|---|---|---|
| Symbol | Date | By | Revision No. | Description | Feeder output |
| | | | | Stock No. | PZ:2636 |
| | | | | Drwg. No. | |

# *EXPLODED VIEW*

# SCREW LIST

3000/6000

| USED SECTION | USED POSITION | HEAD TYPE | SIZE | Q'TY |
|---|---|---|---|---|
| POSITION BEAM | BOBBIN | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X8 | 2 |
| POSITION BEAM | FULCRUM BEARING | PAN HEAD | M4X8 | 4 |
| POSITION BEAM | GRAVITY WEIGHT STOP (100/400) | NUT | M3 | 2 |
| | | | | |
| FLEXIBLE ASSEMBLY | ASSEMBLY SIDE | PAN HEAD | M4X5 | 8 |
| FLEXIBLE ASSEMBLY | MAIN FRAME SIDE | PAN HEAD | M4X8 | 8 |
| | | | | |
| SUSPENSION | TENSION BEARING | PAN HEAD | M4X8 | 2 |
| | | | | |
| PAN SUPPORT | RECEIVER BLOCK SIDE (400) | FLAT HEAD | M3X6 | 4 |
| PAN SUPPORT | SUSPENSION SIDE (400) | PAN HEAD | M4X6 | 2 |
| PAN SUPPORT | RECEIVER BLOCK SIDE (3000/6000) | FLAT HEAD | M3X6 | 4 |
| PAN SUPPORT | SUSPENSION SIDE (3000/6000) | ALLEN HEAD BOLT | M4X8 | 3 |
| PAN SUPPORT | SHOCK ABSORBER (3000/6000) | ALLEN HEAD BOLT | M4X12 | 4 |
| | | | | |
| FRAME | FOUR CORNER | HEXAGON HEAD WITH HOLE | M5X30 | 2 |
| FRAME | MAGNET HOLDER | ALLEN HEAD BOLT | M4X20 | 2 |
| FRAME | MAGNET HOLDER | ALLEN HEAD BOLT | M4X25 | 2 |
| FRAME | ANALOG BOARD | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X8 | 3 |
| FRAME | FLEXIBLE BEARING | PARALLEL PIN | Ø 5X10 | 2 |
| | | | | |
| MAGNET | SHIELD | PAN HEAD WITH SPRING WASHER | M3X6 | 3 |
| MAGNET | BEAM STOP | PAN HEAD WITH SPRING WASHER | M3X6 | 1 |
| MAGNET | POSITION SENSOR | PAN HEAD WITH SPRING AND FLAT WASHER | M3X6 | 2 |
| MAGNET | YOKE | PAN HEAD | M4X10 | 3 |
| | | | | |
| CALIBRATION WEIGHT | LEVER ASSEMBLY | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X6 | 8 |
| CALIBRATION WEIGHT | SHAFT | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X6 | 1 |
| CALIBRATION WEIGHT | MOTOR BOARD | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X6 | 2 |
| CALIBRATION WEIGHT | MOTOR SUPPORT STOP | FLAT HEAD ALLEN BOLT | M3X15 | 3 |
| CALIBRATION WEIGHT | MOTOR SUPPORT STOP | NUT | M3 | 3 |
| CALIBRATION WEIGHT | MOTOR | PAN HEAD | M1.4X4 | 2 |
| CALIBRATION WEIGHT | WEIGHT LEVER ASSEMBLY (100/400) | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X5 | 4 |
| CALIBRATION WEIGHT | WEIGHT LEVER ASSEMBLY (100/400) | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X8 | 4 |
| CALIBRATION WEIGHT | WEIGHT LEVER ASSEMBLY (3000/6000) | ALLEN HEAD BOLT | M3X10 | 4 |

# SCREW LIST

3000/6000

| USED SECTION | USED POSITION | HEAD TYPE | SIZE | Q'TY |
|---|---|---|---|---|
| CALIBRATION WEIGHT | WEIGHT STOP | FLAT HEAD ALLEN BOLT | M4X8 | 2 |
| CALIBRATION WEIGHT | WEIGHT LEVER ASSEMBLY | KNURELED HEAD | M4X10 | 2 |
| CALIBRATION WEIGHT | CAM | ALLEN HEAD WITH HOLE | M3X6 | 1 |
| CALIBRATION WEIGHT | SWITCH CAM | ALLEN HEAD WITH HOLE | M3X3 | 1 |
| CALIBRATION WEIGHT | CAM DRIVING LEVER ASSEMBLY | ALLEN HEAD WITH HOLE | M3X3 | 1 |
| | | | | |
| UPPER CASE | DUST COVER (100/400/3000) | BINDING HEAD | M4X4 | 2 |
| UPPER CASE | CONDUCTING SPRING | LOCK NUT | M8 | 1 |
| UPPER CASE | CONDUCTING SPRING | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X5 | 1 |
| | | | | |
| LOWER CASE | FRAME | ALLEN HEAD BOLT | M4X10 | 3 |
| LOWER CASE | HOLE PLUG | BINDING HEAD | M4X4 | 2 |
| LOWER CASE | PLUNGER | ALLEN HEAD WITH HOLE | M6X10 | 2 |
| LOWER CASE | DISPLAY CASE) | PAN HEAD WITH SPRING AND PLAIN WASHER | M4X8 | 2 |
| LOWER CASE | OPTION GUIDE | TAPPING | M3X6 | 4 |
| LOWER CASE | POWER BOARD | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X8 | 2 |
| LOWER CASE | LOGIC BOARD | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X6 | 2 |
| | | | | |
| REAR PANEL | INTERFACE BOARD | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X8 | 3 |
| REAR PANEL | REAR PANEL | PAN HEAD WITH SPRING WASHER | M4X6 | 4 |
| REAR PANEL | BLANK PANEL | BINDING HEAD | M3X6 | 2 |
| REAR PANEL | GROUND | BINDING HEAD | M4X4 | 1 |
| REAR PANEL | GROUND | TOOTHED WASHER | M4 | 1 |
| | | | | |
| DISPLAY CASE | CASE CONNECTOR | PAN HEAD WITH SPRING AND PLAIN WASHER | M4X8 | 2 |
| DISPLAY CASE | DISPLAY UPPER CASE | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X8 | 3 |
| DISPLAY CASE | DISPLAY LEG STOPPER | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X8 | 1 |
| DISPLAY CASE | DISPLAY BOARD | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X8 | 2 |
| DISPLAY CASE | GROUND | PAN HEAD WITH SPRING AND PLAIN WASHER | M3X8 | 1 |
| DISPLAY CASE | DISPLAY SUPPORT | ROLL SPRING PIN | Ø 3X12 | 4 |

# EXPLODED VIEW 1

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 1 | | BINDING HEAD M4×4 |
| 2 | 07:B49002-1 | LEFT SUPPORT CAP |
| 3 | PM:HX100-5 | BREEZE BREAK UNIT |
| 4 | 09:B30261 | UPPER CASE SET, INCLUDING NO.5～8 |
| 5 | 04:B48993 | CONDUCTING LEAF SPRING |
| 6 | 04:B48993 | CONDUCTING LEAF SPRING |
| 7 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×5 |
| 8 | 04:B48994 | CONDUCTING SPRING PLATE |
| 9 | 07:B49002-2 | RIGHT SUPPORT CAP |
| 10 | 04:A39220A | REAR PANEL |
| 11 | | PAN HEAD WITH SPRING WASHER M4×6 |
| 12 | KO:914-53 | CABLE |
| 13 | | PAN HEAD WITH SPRING WASHER M4×6 |
| 14 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 15 | PZ:2499 | INTERFACE BOARD |
| 16 | | PAN HEAD SPRING AND PLAIN WASHER M3×8 |
| 17 | | PAN HEAD SPRING AND PLAIN WASHER M3×8 |
| 18 | 05:B47177 | WEIGHT 50g |
| 19 | 05:B47177 | WEIGHT 50g |
| 20 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 21 | 04:B47132 | WEIGHT SEESAW L |
| 22 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 23 | 04:B47131 | WEIGHT SEESAW R |
| 24 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 25 | 04:B47134 | UPPER SEESAW STOP |
| 26 | 04:B47136B | LEAF SPRING FOR LEVER ASSEMBLY |
| 27 | 04:B47135 | LOWER SEESAW STOP |
| 28 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 29 | 07:B40278 | SHAFT BRACKET |
| 30 | 05:B49005A | PC GUIDE |
| 31 | | BINDING HEAD M4×4 |
| 32 | 00:B46916 | BUBBLE SPIRIT LEVEL |
| 32 | 05:B49003A | BUBBLE LEVEL HOLDER |
| 33 | | BINDING HEAD M3×6 |
| 34 | 02:B48692 | BLANK PANEL |
| 35 | 03:A10186A | LOWER CASE |
| 36 | 07:A46735A | LEVELING FOOT |
| 37 | 05:B49004A | CABLE GUIDE |
| 38 | | LOCK NUT M10 |
| 39 | | FLAT HEAD ALLEN SCREW M4×8 |
| 40 | 04:B48709A | WEIGHT STOP |
| 41 | | SHIPPING BOLT M4×10 |
| 42 | 05:B49004A | CABLE GUIDE |
| 43 | 07:A46735A | LEVEL FOOT |
| 44 | 07:A46858 | UNDER HOOK COVER FR |
| 45 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |
| 46 | PZ:2498 | POWER SUPPLY BOARD |
| 47 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |
| 48 | | SHIPPING BOLT M4×10 |
| 49 | | FLAT HEAD ALLEN SCREW M3×15 |
| 50 | 05:B47178 | WELLNUT BUSHING STOP |
| 51 | 10:C-330L | WELLNUT BUSHING |
| 52 | 05:B48938A | SUPPORT FOR LOGIC BOARD |
| 53 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |
| 54 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |

# EXPLODED VIEW 1

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 55 | 03:B48654-1 | CASE CONNECTOR R |
| 56 | 10:P3×12 | ROLL SPRING PIN φ3×12 |
| 57 | 07:B49032 | DISPLAY SUPPORT |
| 58 | 03:A21398 | DISPLAY LOWER CASE |
| 59 | 10:SJ-5012 | RUBBER FOOT |
| 60 | 07:B48923 | DISPLAY SUPPORT STOP |
| 61 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 62 | 10:SJ-5012 | RUBBER FOOT |
| 63 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 64 | 03:B48654-2 | CASE CONNECTOR L |
| 65 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |
| 66 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 67 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 68 | PZ:2501 | DISPLAY BOARD |
| 69 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 70 | 07:A21399 | DISPLAY UPPER CASE |
| 71 | 09:A39217 | SILICON SWITCH COVER SHEET |
| 72 | 01:A39658 | DISPLAY FILTER |
| 73 | 10:A35234 | GEARED MOTOR |
| 74 | | NUT M3 |
| 75 | 04:B48672 | MOTOR SUPPORT |
| 76 | | PAN HEAD M1.4×M4 |
| 77 | 07:B47133A | CAM DRIVING SEESAW |
| 78 | | ALLEN HEAD WITH HOLE M3×3 AND M3×6 |
| 79 | 09:B40470C | SWITCH CAM |
| 80 | 04:B40464 | COAXIAL BRACKET |
| 81 | | ALLEN HEAD WITH HOLE M6×10 |
| 82 | 00:B47414 | PLUNGER |
| 83 | 10:3/16 | STEEL BALL |
| 84 | | FLAT HEAD ALLEN SCREW M4×8 |
| 85 | 05:B49004A | CABLE GUIDE |
| 86 | 05:B49004A | CABLE GUIDE |
| 87 | 05:B48938A | SUPPORT FOR LOGIC BOARD |
| 88 | 04:B48709A | WEIGHT STOP |
| 89 | 10:3/16 | STEEL BALL |
| 90 | 00:B47414 | PLUNGER |
| 91 | | ALLEN HEAD WITH HOLE M6×10 |
| 92 | 04:B47135 | LOWER SEESAW STOP |
| 93 | 04:B47135 | LOWER SEESAW STOP |
| 94 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 95 | 05:B46148 | CAM SHAFT |
| 96 | | ALLEN HEAD WITH HOLE M3×3 |
| 97 | PZ:2513 | MOTOR BOARD |
| 98 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 99 | PZ:2497 | LOGIC BOARD |
| 100 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 201 | 04:B47118A | WEIGHT PAN |
| 202 | 00:B49220-1 | SHOCK ABSORBER |
| 203 | | "E" RING |
| 204 | 05:C40516 | WEIGHT PAN RECEPTER CONE |
| 204 | 04:B47119 | WEIGHT PAN RECEPTER PLATE |
| 206 | 04:B49016 | BREEZE BREAK RING |
| 207 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 208 | 05:C40515 | DUST RING |
| 209 | 04:C40309 | DUST PLATE |

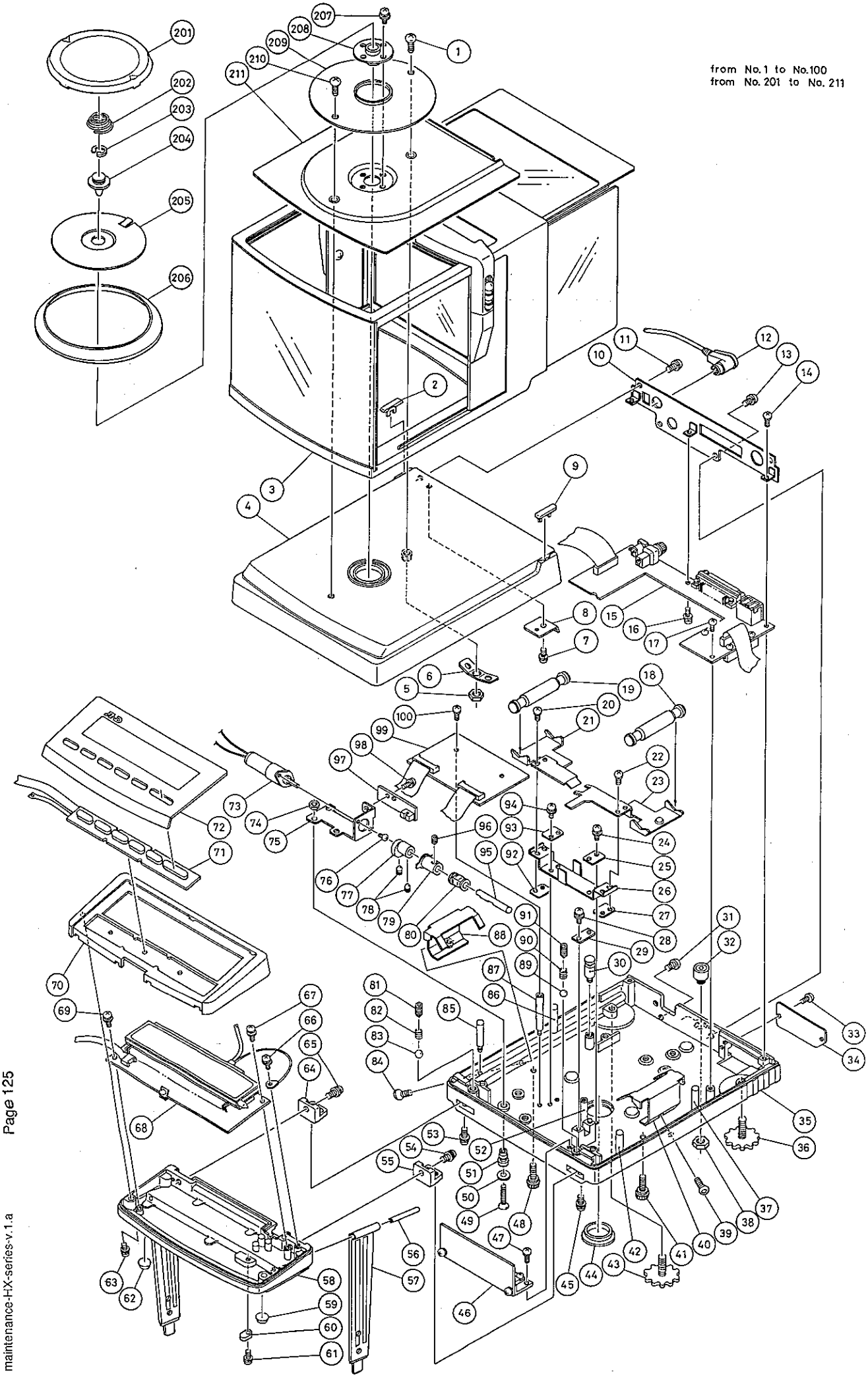
# EXPLODED VIEW 1

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 210 | | BINDING HEAD M4×4 |
| 211 | 04:B30073 | FLOOR PLATE |

# EXPLODED VIEW – 1
# HX – 100



from No. 1 to No.100
from No. 201 to No. 211



# EXPLODED VIEW 2

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 101 | 05:C40517 | WEIGHT PAN RECEPTER CONE HOLDER |
| 102 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×5 |
| 103 | 04:B47491 | WEIGHT ARM PLATE |
| 104 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 105 | 04:B48995 | WEIGHT ARM |
| 106 | 03:A39174D-2 | SUSPENSION GUIDE |
| 107 | 04:B48995 | WEIGHT ARM |
| 108 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 109 | 04:B47491 | WEIGHT ARM PLATE |
| 110 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×5 |
| 111 | 04:A48929;B | FLEXIBLE BEARING |
| 112 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 113 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 114 | | PAN HEAD M4×8 |
| 115 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 116 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 117 | | PAN HEAD M4×8 |
| 118 | 05:A46919 | UNDERHOOK |
| 119 | 10:P1.5×6 | ROLL SPRING PIN |
| 120 | 10:P1.5×6 | ROLL SPRING PIN |
| 121 | 04:B47108 | LOWER TENSION BEARING HOLDER |
| 122 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 123 | | PAN HEAD M4×8 |
| 124 | 04:B47103 | UPPER FLEXIBLE BEARING ASSY |
| 125 | | PAN HEAD M4×8 |
| 126 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 127 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 128 | 04:A46360;B | FLEXIBLE BEARING |
| 129 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 130 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 131 | | PAN HEAD M4×5 |
| 132 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 133 | 04:B47740-2 | STOP PLATE |
| 134 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 135 | 04:B47737A | SHIELD PLATE |
| 136 | 05:B47106 | STOP PIN |
| 137 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 138 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 139 | 03:A39136E-1 | BEAM |
| 140 | | |
| 141 | PC:2546 | RELAY BOARD |
| 142 | 10:P1.5×6 | ROLL SPRING PIN |
| 143 | 10:P1.5×6 | ROLL SPRING PIN |
| 144 | 05:B47111 | SPRING GUIDE |
| 145 | 10:C-207 | TRIMMING WEIGHT SPRING |
| 146 | | |
| 147 | 05:B47113 | TRIMMING WEIGHT B |
| 148 | 05:B47112 | TRIMMING WEIGHT A |
| 149 | 05:B47110 | TRIMMING WEIGHT SCREW |
| 150 | 09:A39083C | BOBBIN |
| 151 | 05:B46880-1 | POLE PIECE |
| 152 | 00:B44509A | MAGNET |
| 153 | 05:B48233B | YOKE |
| 154 | PZ:2481D | POSITION SENSER BOARD |
| 155 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |

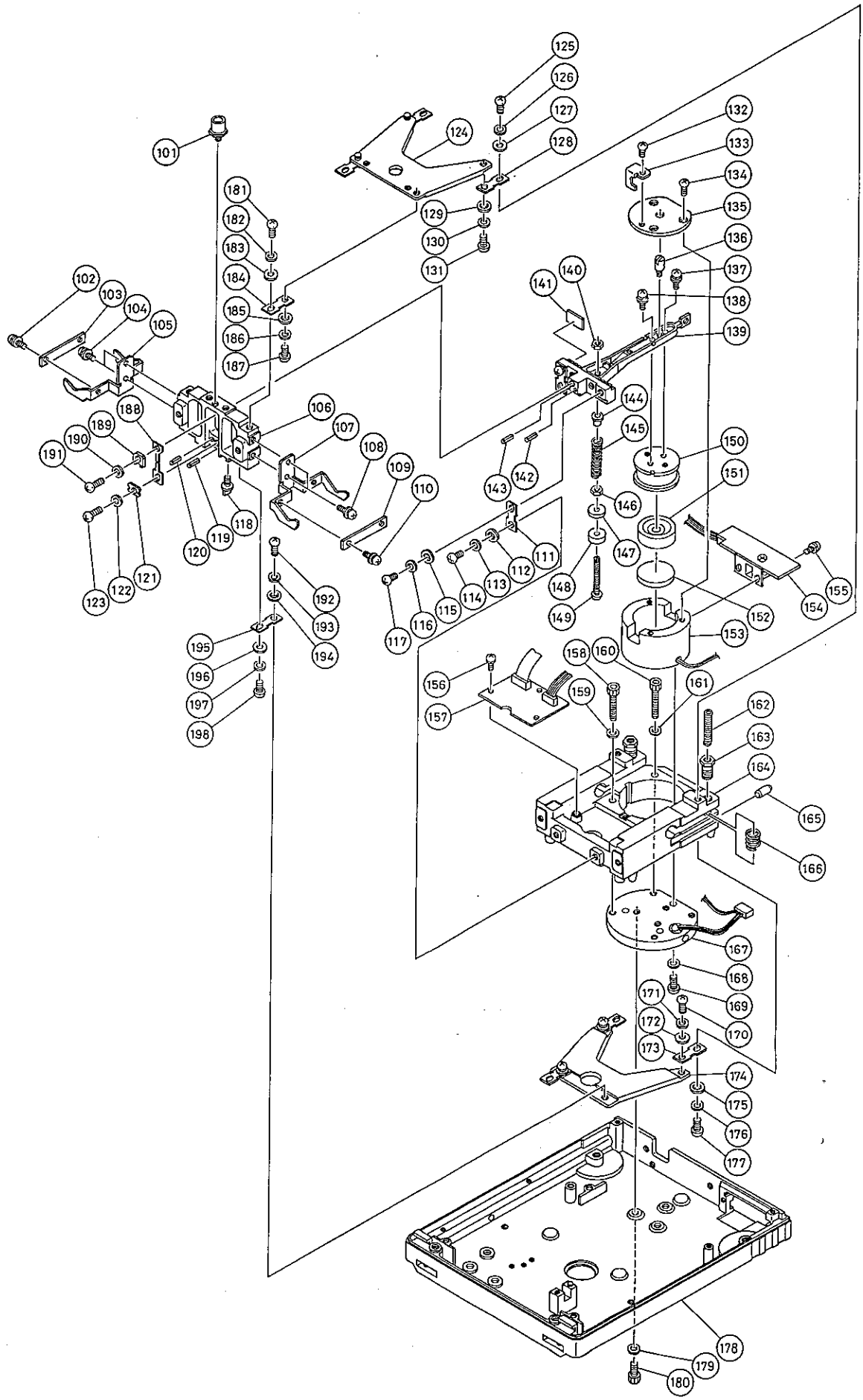
# EXPLODED VIEW 2

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 156 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 157 | PZ:2500D | ANALOG BOARD |
| 158 | | ALLEN HEAD BOLT M4×10 |
| 159 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 160 | | ALLEN HEAD BOLT M4×10 |
| 161 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 162 | | ALLEN HEAD WITH HOLE M5×30 |
| 163 | 00:B49401 | FOUR CORNER ADJUSTMENT |
| 164 | 03:A21386E-1 | MAIN MECHANICAL FRAME |
| 165 | 10:P5×10 | PARALEL PIN φ5×10 |
| 166 | 00:A47004 | FOUR CORNER SPRING |
| 167 | 05:B48675A | MAGNET HOLDER BASE |
| 168 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 169 | | PAN HEAD M4×10 |
| 170 | | PAN HEAD M4×5 |
| 171 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 172 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 173 | 04:A46360;B | FREXIBLE BEARING |
| 174 | 04:B47104 | LOWER FLEXIBLE BEARING ASSY |
| 175 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 176 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 177 | | PAN HEAD M4×8 |
| 178 | 03:A10186A | LOWER CASE |
| 179 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 180 | | ALLEN HEAD BOLT M4×10 |
| 181 | | PAN HEAD M4×8 |
| 182 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 183 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 184 | 04:A46360;B | FLEXIBLE BEARING |
| 185 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 186 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 187 | | |
| 188 | 04:B48932 | TENSION BEARING |
| 189 | 04:B47107 | UPPER TENSION BEARING HOLDER |
| 190 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 191 | | PAN HEAD M4×8 |
| 192 | | TRAS |
| 193 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 194 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 195 | 04:B46360;B | FLEXIBLE BEARING |
| 196 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 197 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 198 | | PAN HEAD M4×8 |
| 199 | | PAN HEAD M4×5 |

# EXPLODED VIEW – 2

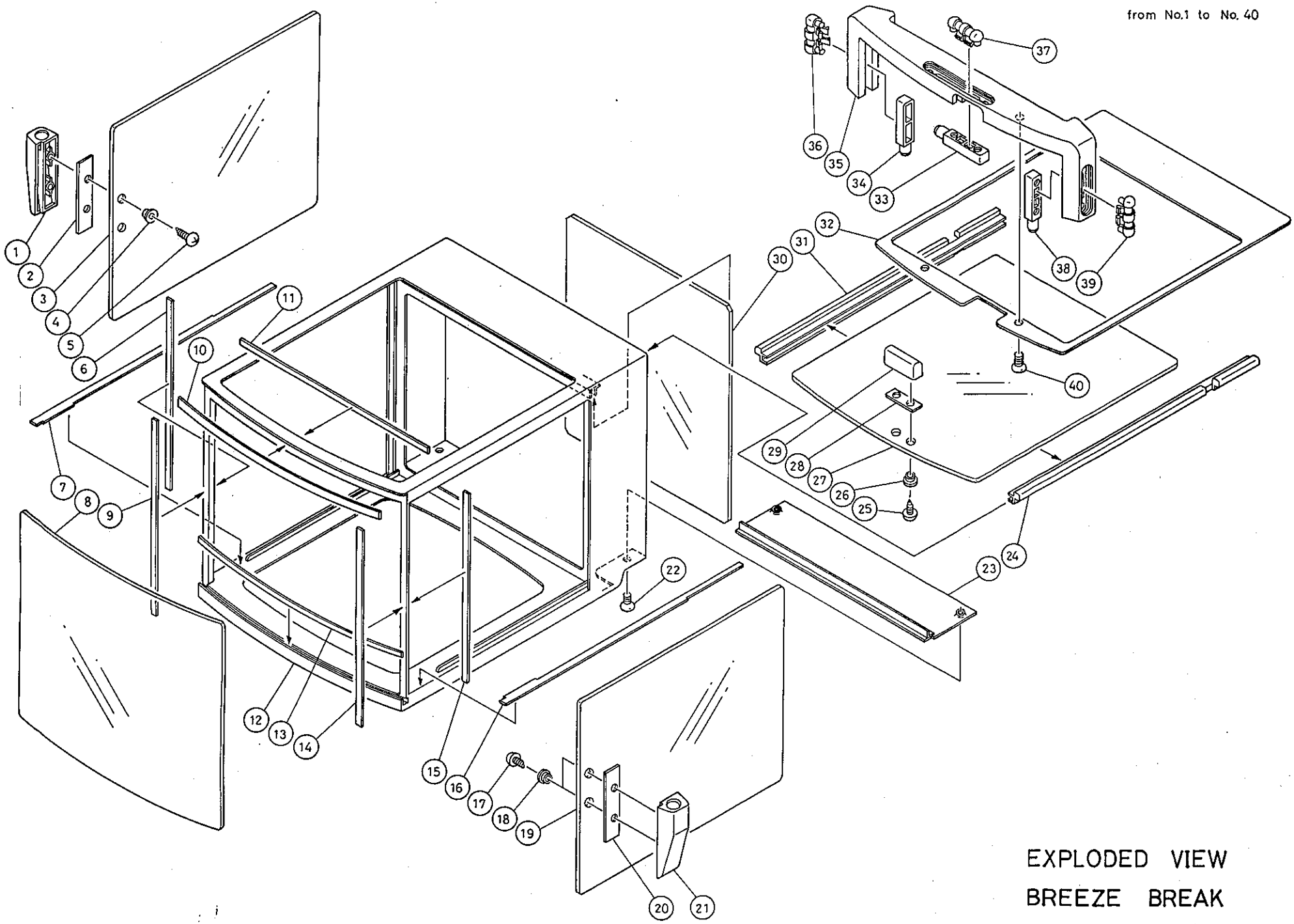
## HX – 100





# BREEZE BREAK FOR HX

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 1 | 07:C40061-1 | SIDE KNOB L |
| 2 | 07:B49806 | SIDE KNOB SHEET |
| 3 | 00:B49326 | SIDE GLASS |
| 4 | | BUSHING |
| 5 | | TRUSS HEAD M3×8 |
| 6 | 07:B49801-3 | CUSHION STRIP |
| 7 | 07:B49800-2 | DOOR SUPPORT STRIP L |
| 8 | 00:B49323 | FRONT GLASS |
| 9 | 07:B49841 | ADHESIVE STRIP |
| 10 | 07:B49842 | ADHESIVE STRIP |
| 11 | 07:B49801-1 | CUSHION STRIP |
| 12 | 04:A21433A | BREEZE BREAK CASE |
| 13 | 07:B49801-2 | CUSHION STRIP |
| 14 | 07:B49841 | ADHESIVE STRIP |
| 15 | 07:B49801-3 | CUSHION STRIP |
| 16 | 07:B49800-1 | DOOR SUPPORT STRIP R |
| 17 | | TRUSS HEAD M3×8 |
| 18 | | BUSHING |
| 19 | 00:B49326 | SIDE GLASS |
| 20 | 07:B49806 | SIDE KNOB SHEET |
| 21 | 07:C40061-2 | SIDE KNOB R |
| 22 | | FLAT HEAD M3×4 |
| 23 | 04:B49377A | REAR STOP PLATE |
| 24 | 07:B49378-1 | GUIDE RAIL R |
| 25 | | TRUSS HEAD M3×8 |
| 26 | | BUSHING |
| 27 | 00:B49325 | TOP GLASS |
| 28 | 07:B49807 | TOP KNOB SHEET |
| 29 | 07:B49390A | TOP KNOB |
| 30 | 00:B49324 | REAR GLASS |
| 31 | 07:B49378-2 | GUIDE RAIL L |
| 32 | 04:A39554A | SLIDE PLATE |
| 33 | 07:B49374 | KNOB SLIDER |
| 34 | 07:B49374 | KNOB SLIDER |
| 35 | 07:A21435A | HANDLE |
| 36 | 07:B49375 | SLIDER COVER |
| 37 | 07:B49375 | SLIDER COVER |
| 38 | 07:B49374 | KNOB SLIDER |
| 39 | 07:B49375 | SLIDER COVER |




# EXPLODED VIEW
# BREEZE BREAK

# EXPLODED VIEW 1

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 1 | 04:A39326 | WEIGHING PAN |
| 2 | | FLAT HEAD M3×6 |
| 3 | 05:B43841A | WASHER RING |
| 4 | 04:A39327 | PAN SUPPORT |
| 5 | 05:B48934 | PAN SUPPORT BUSHING |
| 6 | | |
| 7 | 04:A39339 | DUST COVER |
| 8 | | BINDING HEAD M4×4 |
| 9 | | BINDING HEAD M4×4 |
| 10 | 04:A39220A | REAR PANEL |
| 11 | | PAN HEAD WITH SPRING WASHER M4×6 |
| 12 | KO:914-53 | CABLE |
| 13 | | PAN HEAD WITH SPRING WASHER M4×6 |
| 14 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 15 | PZ:2499 | INTERFACE BOARD |
| 16 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 17 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 18 | 05:B47129A | WEIGHT |
| 19 | 05:B47129A | WEIGHT |
| 20 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 21 | 04:B47132 | WEIGHT SEESAW L |
| 22 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 23 | 04:B47131 | WEIGHT SEESAW R |
| 24 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 25 | 04:B47134 | UPPER SIDE SEESAW STOP |
| 26 | 04:B47136B | LEAF SPRING FOR SEESAW |
| 27 | 04:B47135 | LOWER SIDE SEESAW STOP |
| 28 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 29 | 07:B40278 | SHAFT BRACKET |
| 30 | 05:B49005A | PC GUIDE |
| 31 | | BINDING HEAD M4×4 |
| 32 | 00:A46916 | LEVEL VIAL |
| 32 | 05:B49003A | BUBBLE LEVEL HOLDER |
| 33 | | BINDING HEAD M3×6 |
| 34 | 02:B48692 | BLANK PANEL |
| 35 | 03:A10186A | LOWER CASE |
| 36 | 07:A46735A | LEVEL FOOT |
| 37 | 05:B49004A | CABLE GUIDE |
| 38 | | LOCK NUT M10 |
| 39 | | FLAT HEAD ALLEN HEAD BOLT M4×8 |
| 40 | 04:B48708A-2 | WEIGHT STOP |
| 41 | | KNURELED HEAD BOLT M4×10 |
| 42 | 05:B49004A | CABLE GUIDE |
| 43 | 07:A46735A | LEVELING FOOT |
| 44 | 07:B46858 | UNDERHOOK CAP |
| 45 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |
| 46 | PZ:2498 | POWER SUPPLY BOARD |
| 47 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 48 | | SHIPPING BOLT M4×10 |
| 49 | | FLAT HEAD ALLEN HEAD BOLT M3×15 |
| 50 | 05:B47178 | WELLNUT BUSHING STOP |
| 51 | 10:C-330L | WELLNUT BUSHING |
| 52 | 05:B48938A | SUPPORT FOR LOGIC BOARD |
| 53 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |
| 54 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |

# EXPLODED VIEW 1

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 55 | 03:B48654-1 | CASE CONNECTOR R |
| 56 | | ROLL SPRING PIN φ3×12 |
| 57 | 07:B49032 | DISPLAY SUPPORT |
| 58 | 03:A21398 | DISPLAY LOWER CASE |
| 59 | 10:SJ-5012 | RUBBER FOOT |
| 60 | 07:B49023 | DISPLAY SUPPORT STOP |
| 61 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 62 | 10:SJ-5012 | RUBBER FOOT |
| 63 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 64 | 03:B48654-2 | CASE CONNECTOR L |
| 65 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |
| 66 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 67 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 68 | PZ:2501 | DISPLAY BOARD |
| 69 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 70 | 07:A21399 | DISPLAY UPPER CASE |
| 71 | 09:A39217 | SILICON SWITCH COVER SHEET |
| 72 | 01:A39659 | DISPLAY FILTER |
| 73 | 10:A35234 | GEARED MOTOR |
| 74 | | NUT M3 |
| 75 | 04:B48672 | MOTOR SUPPORT |
| 76 | | PAN HEAD M1.4×4 |
| 77 | 07:B47133A | CAM DRIVING SEESAW |
| 78 | | HEXAGON HEAD WITH HOLE M3×3 AND M3×6 |
| 79 | 09:B40470C | SWITCH CAM |
| 80 | 04:B40464 | COAXIAL BRACKET |
| 81 | | ALLEN HEAD WITH HOLE M6×10 |
| 82 | 00:B47414 | PLUNGER |
| 83 | 10:3/16 | STEEL BALL |
| 84 | | FLAT HEAD ALLEN HEAD BOLT M4×8 |
| 85 | 05:B49004A | CABLE GUIDE |
| 86 | 05:B49004A | CABLE GUIDE |
| 87 | 05:B48938A | SUPPORT FOR LOGIC BOARD |
| 88 | 04:B48708A-2 | WEIGHT STOP |
| 89 | 10:3/16 | STEEL BALL |
| 90 | 00:B47414 | PLUNGER |
| 91 | | ALLEN HEAD WITH HOLE M6×10 |
| 92 | 04:B47135 | LOWER SEESAW STOP |
| 93 | 04:B47134 | UPPER SEESAW STOP |
| 94 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 95 | 05:B46148 | CAM SHAFT |
| 96 | | ALLEN HEAD WITH HOLE M3×3 |
| 97 | PZ:2513 | MOTOR BOARD |
| 98 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 99 | PZ:2497 | LOGIC BOARD |
| 100 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| | | |
| 300 | 07:A10191 | UPPER CASE |
| 301 | 04:B48993 | CONDUCTING LEAF SPRING |
| 302 | | LOCK NUT M8 |
| 303 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×5 |
| 304 | 04:B48994 | CONDUCTING SPRING PLATE |
| 305 | 07:B49002-2 | RIGHT SUPPORT CAP |
| 306 | 07:B49002-1 | LEFT SUPPORT CAP |

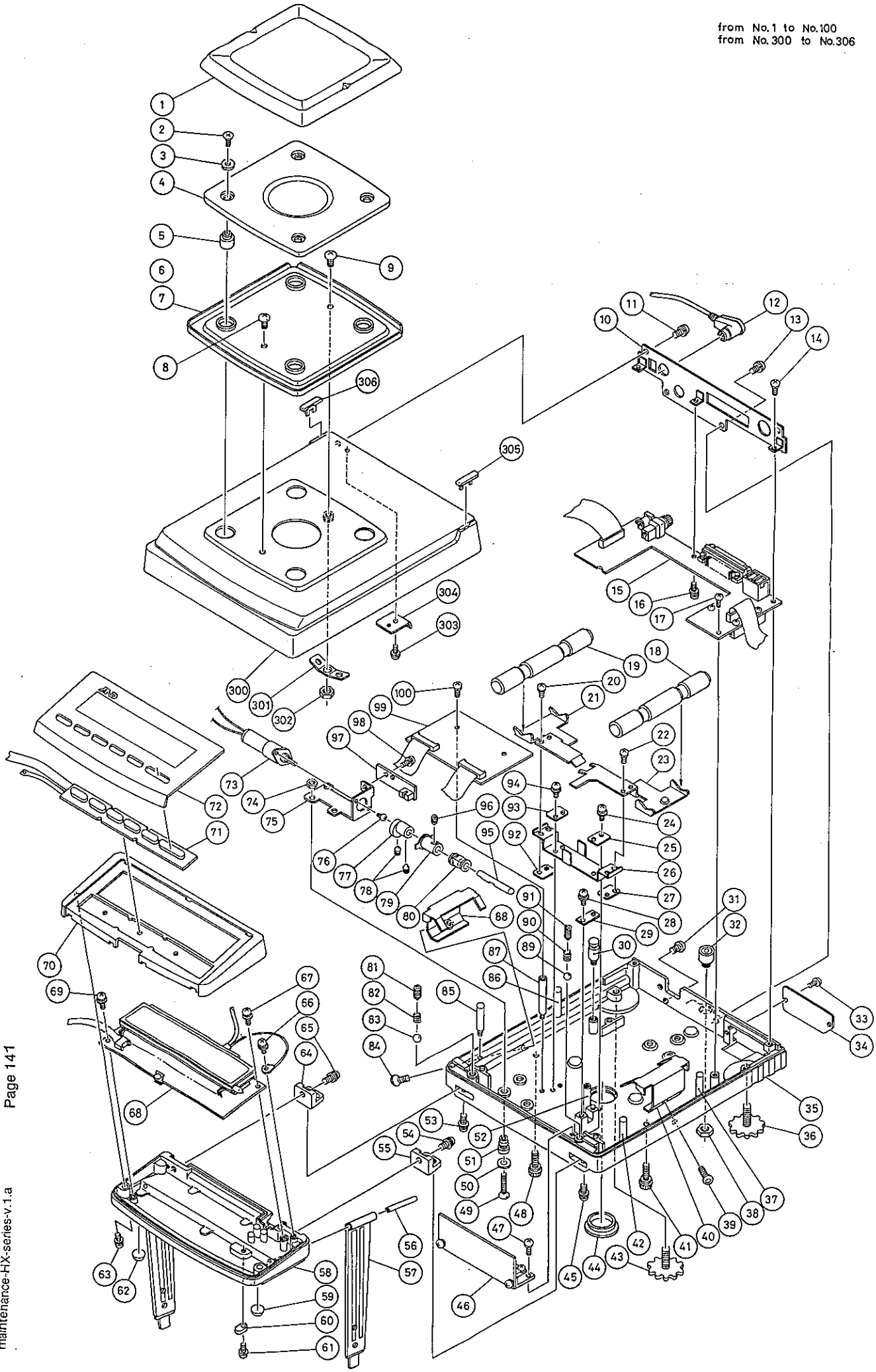
from No. 1 to No. 100
from No. 300 to No. 306

# EXPLODED VIEW – 1

## HX – 400







# EXPLODED VIEW 2

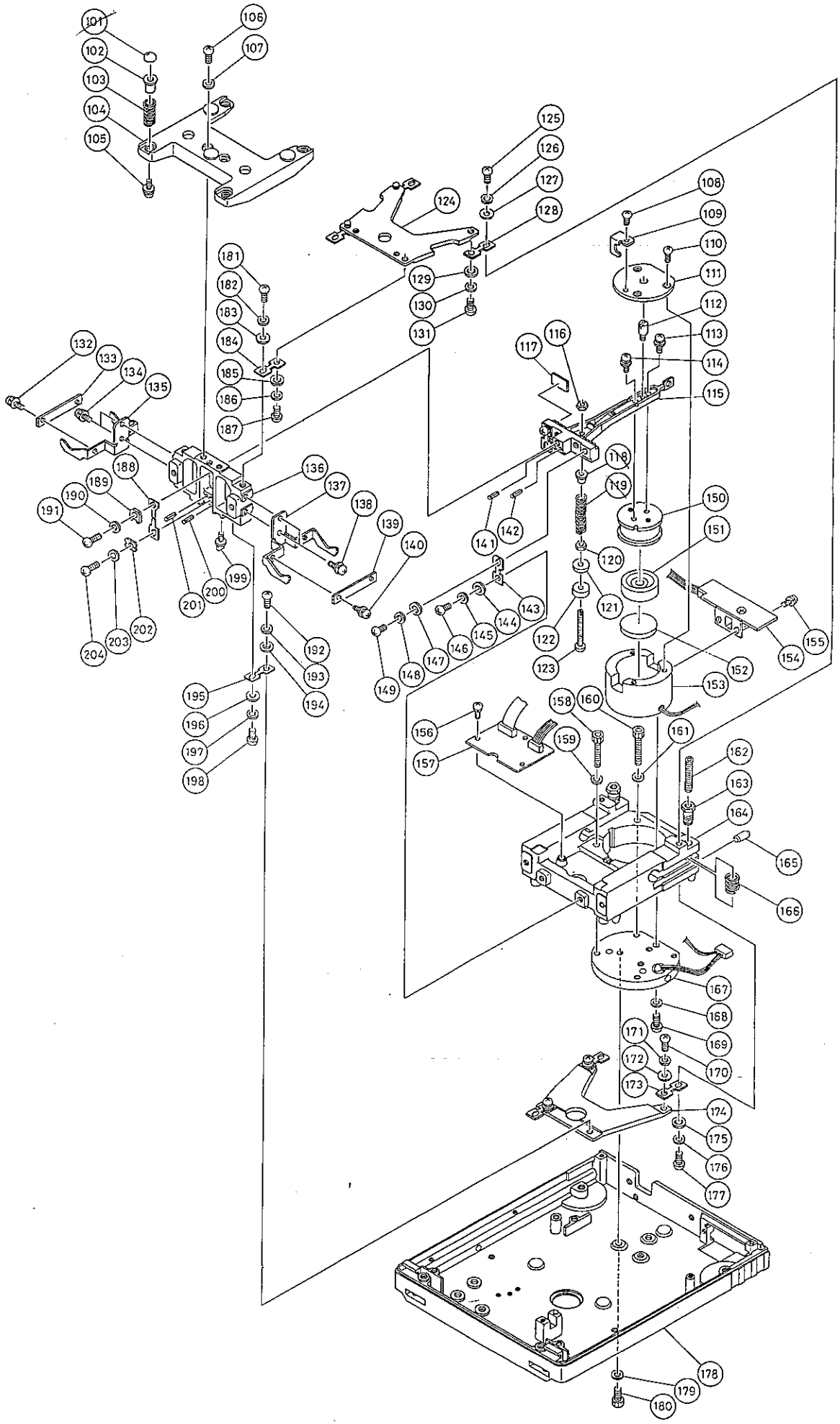
| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 101 | | |
| 102 | 09:B49985 | PAN SUPPORT RECEIVER BLOCK |
| 103 | 10:C-166 | SHOCK OBSORBER SPRING |
| 104 | 03:A39175D | PAN SUPORT RECEIVER |
| 105 | | |
| 106 | | PAN HEAD M4×6 |
| 107 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 108 | | PAN SPRING M3×6 |
| 109 | 04:B47740-2 | STOP PLATE |
| 110 | | PAN HEAD SPRING WASHER M3×6 |
| 111 | 04:B47737A | SHIELD PLATE |
| 112 | 05:B47106 | STOP PIN |
| 113 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 114 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 115 | 03:A39136E-2 | POSITION BEAM |
| 116 | | NUT M3 |
| 117 | PZ:2546 | RELAY BOARD |
| 118 | | |
| 119 | | |
| 120 | | NUT M3 |
| 121 | 05:B47113 | TRIMMING WEIGHT B |
| 122 | 05:B47112 | TRIMMING WEIGHT A |
| 123 | | PAN HEAD M3×20 |
| 124 | 04:B47105 | UPPER FLEXIBLE BEARING ASSY |
| 125 | | PAN HEAD M4×8 |
| 126 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 127 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 128 | 04:A46361;B | FLEXIBLE BEARING |
| 129 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 130 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 131 | | PAN HEAD M4×5 |
| 132 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×5 |
| 133 | 04:B47491 | WEIGHT STOPPER PLATE |
| 134 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 135 | 04:B48995 | WEIGHT ARM |
| 136 | 03:A39174D-1 | SUSPENSION GUIDE |
| 137 | 04:B48995 | WEIGHT ARM |
| 138 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 139 | 04:B47491 | WEIGHT STOP PLATE |
| 140 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×5 |
| 141 | 10:P1.5×6 | ROLL SPRING PIN |
| 142 | 10:P1.5×6 | ROLL SPRING PIN |
| 143 | 04:A47793;B | FLEXIBLE BEARING |
| 144 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 145 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 146 | | PAN HEAD M4×8 |
| 147 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 148 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 149 | | PAN HEAD M4×8 |
| 150 | 09:A39083C | BOBBIN |
| 151 | 05:B46880-1 | POLE PIECE |
| 152 | 00:B44509A | MAGNET |
| 153 | 05:B48233B | YOKE |
| 154 | PZ:2481A | POSITION SENSER BOARD |
| 155 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |

# EXPLODED VIEW 2

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 156 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 157 | PZ:2500A | ANALOG BOARD |
| 158 | | ALLEN HEAD BOLT M4×20 |
| 159 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 160 | | ALLEN HEAD BOLT M4×25 |
| 161 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 162 | | ALLEN HEAD WITH HOLE M5×30 |
| 163 | 05:A46369 | FOUR CORNER ADJUSTMENT SCREW |
| 164 | 03:A21386D-1 | MAIN MECHNICAL ERAME |
| 165 | | PARALEL PIN φ5×10 |
| 166 | 00:A47004 | FOUR CORNER SPRING |
| 167 | 05:B48675A | MAGNET HOLDER BASE |
| 168 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 169 | | PAN HEAD M4×10 |
| 170 | | PAN HEAD M4×5 |
| 171 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 172 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 173 | 04:A46361;B | FLEXIBLE BEARING |
| 174 | 04:B47104 | LOWER FEXIBLE BEARING ASSY |
| 175 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 176 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 177 | | PAN HEAD M4×8 |
| 178 | 03:A10186A | LOWER CASE |
| 178 | | |
| 179 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 180 | | ALLEN HEAD BOLT M4×10 |
| 181 | | PAN HEAD M4×8 |
| 182 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 183 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 184 | 04:A46361;B | FLEXIBLE BEARING |
| 185 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 186 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 187 | | PAN HEAD M4×5 |
| 188 | 04:B48931 | TENSION BEARING |
| 189 | 04:B47107 | UPPER TENSION BEARING HOLDER |
| 190 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 191 | | PAN HEAD M4×8 |
| 192 | | PAN HEAD M4×5 |
| 193 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 194 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 195 | 04:B48933 | FLEXIBLE BEARING |
| 196 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 197 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 198 | | PAN HEAD M4×8 |
| 199 | 05:A46919 | UNDERHOOK |
| 200 | 10:P1.5×6 | ROLL SPRING PIN |
| 201 | 10:P1.5×6 | ROLL SPRING PIN |
| 202 | 04:B47108 | LOWER TENSION BEARING HOLDER |
| 203 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 204 | | PAN M4×8 |

# EXPLODED VIEW - 2
## HX - 400





# EXPLODED VIEW 1

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 1 | 04:A39254 | WEIGHTING PAN |
| 2 | | FLAT HEAD M3×6 |
| 3 | 05:B43841A | WASHER RING |
| 4 | 04:A39255 | PAN SUPPORT |
| 5 | 09:B49984 | PAN SUPPORT BUSHING |
| 6 | | |
| 7 | 04:A39340 | DUST COVER |
| 8 | | BINDING HEAD M4×4 |
| 9 | | BINDING HEAD M4×4 |
| 10 | 04:A39220A | REAR PANEL |
| 11 | | PAN HEAD WITH SPRING WASHER M4×6 |
| 12 | KO:914-53 | CABLE |
| 13 | | PAN HEAD WITH SPRING WASHER M4×6 |
| 14 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 15 | PZ:2499 | INTERFACE BOARD |
| 16 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 17 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 18 | 05:B47130A | WEIGHT FOR HX3000 |
| 19 | 05:B47130A | WEIGHT FOR HX3000 |
| 20 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 21 | 04:B47132 | WEIGHT SEESAW L |
| 22 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 23 | 04:B47131 | WEIGHT SEESAW R |
| 24 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 25 | 04:B47134 | UPPER SIDE SEESAW STOP |
| 26 | 04:B47136B | LEAF SPRING FOR SEESAW |
| 27 | 04:B47135 | LOWER SIDE SEESAW STOP |
| 28 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 29 | 07:B40278 | SHAFT BRACKET |
| 30 | 05:B49005A | PC GUIDE |
| 31 | | BINDING HEAD M4×4 |
| 32 | 00:B46916 | BUBBLE SPIRIT LEVEL |
| 32 | 05:B49003A | BUBBLE LEVEL HOLDER |
| 33 | | BINDING HEAD M3×6 |
| 34 | 02:B48692 | BLANK PANEL |
| 35 | 03:A10186A | LOWER CASE |
| 36 | 07:76735A | LEVELING FOOT |
| 37 | 05:B49004A | CABLE GUIDE |
| 38 | | LOCK NUT M10 |
| 39 | | FLAT HEAD ALLEN HEAD BOLT M4×8 |
| 40 | 04:B48708A-1 | WEIGHT STOP |
| 41 | | KNURELED HEAD BOLT M4×10 |
| 42 | 05:B49004A | CABLE GUIDE |
| 43 | 07:A46735A | LEVELING FOOT |
| 44 | 07:B46858 | UNDERHOOK CAP |
| 45 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |
| 46 | PZ:2498 | POWER SUPPLY BOARD |
| 47 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 48 | | SHIPPING BOLT M4×10 |
| 49 | | FLAT HEAD ALLEN HEAD BOLT M3×15 |
| 50 | 05:B47178 | WELLNUT BUSHING STOP |
| 51 | 10:C-330L | WELLNUT BUSHING |
| 52 | 05:B48938A | SUPPORT FOR LOGIC BOARD |
| 53 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |
| 54 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |

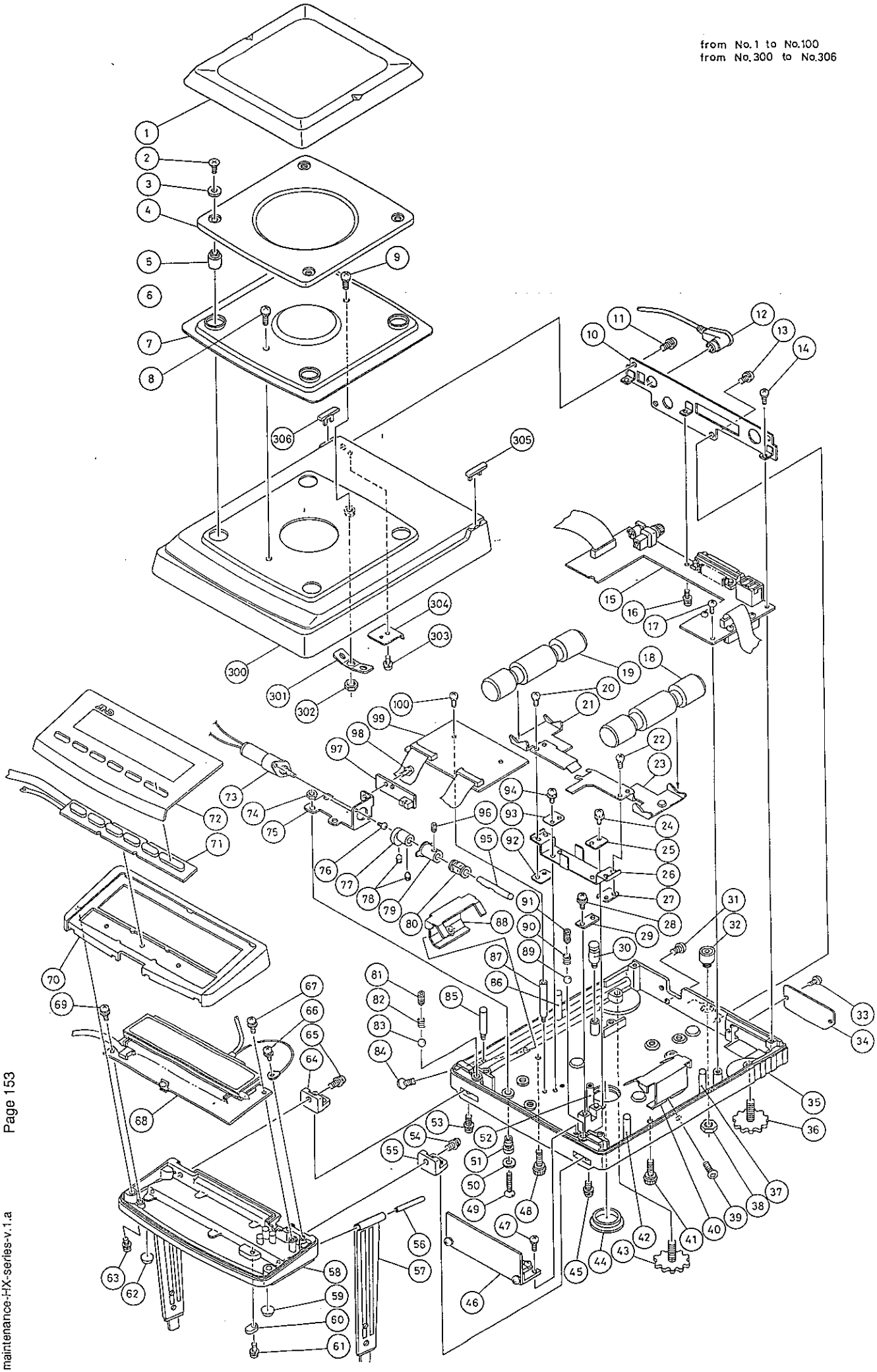
# EXPLODED VIEW 1

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 55 | 03:B48654-1 | CASE CONNECTOR R |
| 56 | | ROLL SPRING PIN φ3×12 |
| 57 | 07:B49032 | DISPLAY SUPPORT |
| 58 | 03:A21398 | DISPLAY LOWER CASE |
| 59 | 10:SJ-5012 | RUBBER FOOT |
| 60 | 07:B48923 | DISPLAY SUPPORT STOP |
| 61 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 62 | 10:SJ-5012 | RUBBER FOOT |
| 63 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 64 | 03:B48654-2 | CASE CONNECTOR L |
| 65 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |
| 66 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 67 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 68 | PZ:2501 | DISPLAY BOARD |
| 69 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 70 | 07:A21399 | DISPLAY UPPER CASE |
| 71 | 09:A39217 | SILICON SWITCH COVER SHEET |
| 72 | 01:A39660 | DISPLAY FILTER |
| 73 | 10:A35234 | GEARED MOTOR |
| 74 | | NUT M3 |
| 75 | 04:B48672 | MOTOR SUPPORT |
| 76 | | PAN HEAD M1.4×4 |
| 77 | 07:B47133A | CAM DRIVING SEESAW |
| 78 | | ALLEN HEAD WITH HOLE M3×3 AND M3×6 |
| 79 | 09:B40470B | SWITCH CAM |
| 80 | 04:B40464 | COAXIAL BRACKET |
| 81 | | ALLEN HEAD WITH HOLE M6×10 |
| 82 | 00:B47414 | PLUNGER |
| 83 | 10:3/16 | STEEL BALL |
| 84 | | FLAT HEAD ALLEN HEAD BOLT M4×8 |
| 85 | 05:B49004A | CABLE GUIDE |
| 86 | 05:B49004A | CABLE GUIDE |
| 87 | 05:B48938A | SUPPORT FOR LOGIC BOARD |
| 88 | 04:B48708A-1 | WEIGHT STOP |
| 89 | 10:3/16 | STEEL BALL |
| 90 | 00:B47414 | PLUNGER |
| 91 | | ALLEN HEAD WITH HOLE M6×10 |
| 92 | 04:B47135 | LOWER SEESAW STOP |
| 93 | 04:B47134 | UPPER SEESAW STOP |
| 94 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 95 | 05:B46148 | CAM SHAFT |
| 96 | | ALLEN HEAD WITH HOLE M3×3 |
| 97 | PZ:2513 | MOTOR BOARD |
| 98 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 99 | PZ:2597 | LOGIC BOARD |
| 100 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| | | |
| 300 | 07:A10187 | UPPER CASE |
| 301 | 04:B48993 | CONDUCTING LEAF SPRING |
| 302 | | LOCK NUT M8 |
| 303 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×5 |
| 304 | 04:B48994 | CONDUCTING SPRING PLATE |
| 305 | 07:B49002-2 | RIGHT SUPPORT CAP |
| 306 | 07:B49002-1 | LEFT SUPPORT CAP |

# EXPLODED VIEW – 1

## HX – 3000

from No. 1 to No.100
from No. 300 to No.306



# EXPLODED VIEW 2

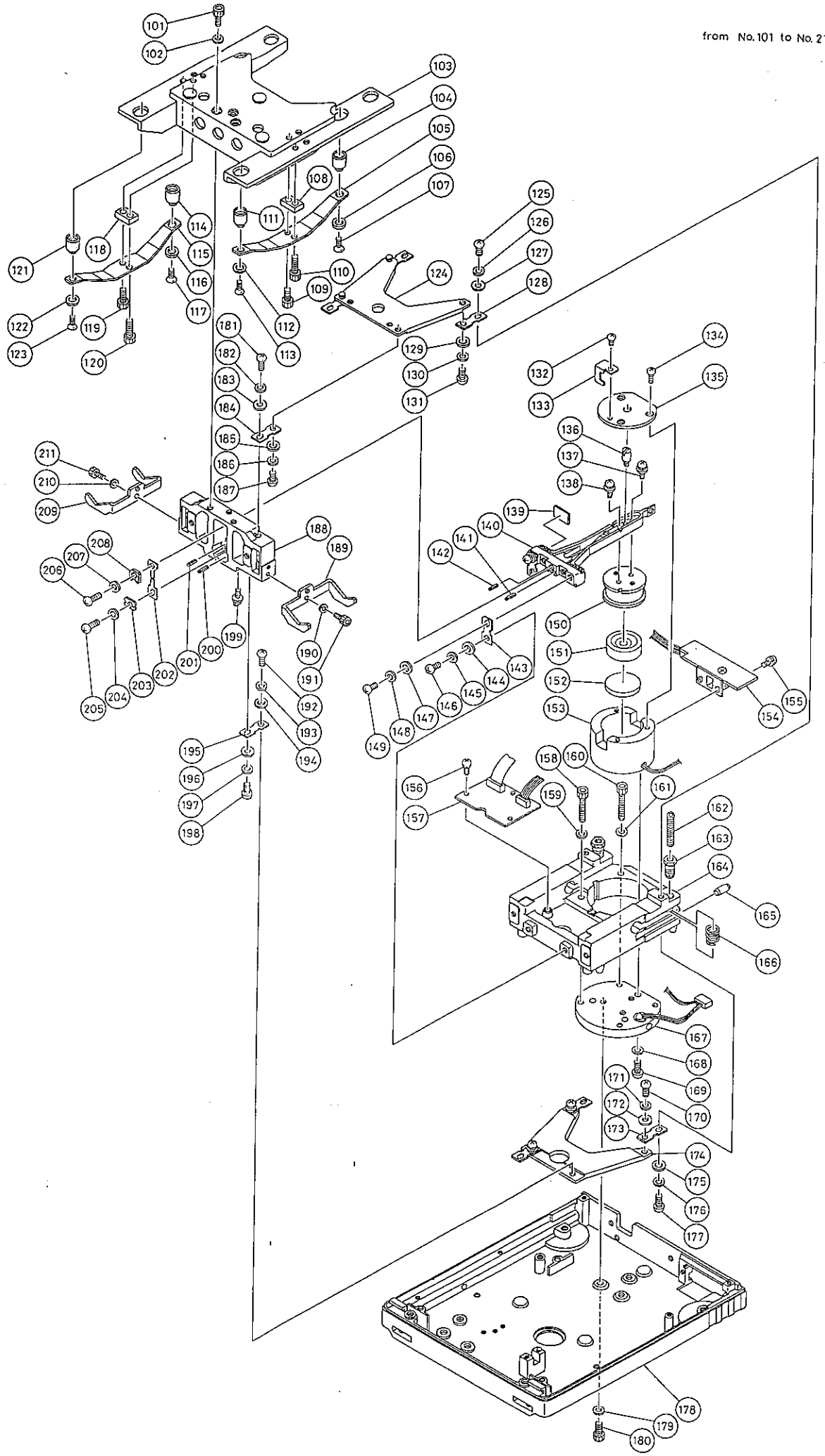
| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 101 | | ALLEN HEAD BOLT M4×8 |
| 102 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 103 | 03:A21391C | PAN SUPPORT RECEIVER |
| 104 | 05:B48937 | PAN SUPPORT RECEIVER BLOCK |
| 105 | 04:B47116A | SHOCK ABSORBER LEAF SPRING |
| 106 | 04:B43841A | WASHER M3 |
| 107 | | FLAT HEAD M3×6 |
| 108 | 05:B47120A | SHOCK ABSORBER BLOCK |
| 109 | | ALLEN HEAD BOLT M4×12 |
| 110 | | ALLEN HEAD BOLT M4×12 |
| 111 | 05:B48937 | PAN SUPPORT RECEIVER BLOCK |
| 112 | 04:B43841A | WASHER M3 |
| 113 | | FLAT HEAD M3×6 |
| 114 | 05:B48937 | PAN SUPPORT RECEIVER BLOCK |
| 115 | 04:B47116A | SHOCK ABSORBER LEAF SPRING |
| 116 | 04:B43841A | WASHER M3 |
| 117 | | PAN HEAD M3×6 |
| 118 | 05:B47120A | SHOCK ABSORBER BLOCK |
| 119 | | ALLEN HEAD BOLT M4×12 |
| 120 | | ALLEN HEAD BOLT M4×12 |
| 121 | 05:B48937 | PAN SUPPORT RECEIVER BLOCK |
| 122 | 04:B43841A | WASHER M3 |
| 123 | | FLAT HEAD M3×6 |
| 124 | 04:B47103 | UPPER FLEXIBLE BEARNIG ASSY |
| 125 | | PAN HEAD M4×8 |
| 126 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 127 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 128 | 04:B48933 | FLEXIBLE BEARING |
| 129 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 130 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 131 | | PAN HEAD M4×5 |
| 132 | | PAN HEAD WITH SPRING WASHER M3×6 |
| 133 | 04:B47740-1 | STOP PLATE |
| 134 | | PAN HEAD WITH SPRING WASHER M3×6 |
| 135 | 04:B47737 | SHIELD PLATE |
| 136 | 05:B47106 | STOP PIN |
| 137 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 138 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 139 | PZ:2546 | RELAY BOARD |
| 140 | 03:A39135E-2 | POSITION BEAM |
| 141 | 10:101801-15006 | ROLL SPRING PIN |
| 142 | 10:101801-15006 | ROLL SPRING PIN |
| 143 | 04:A47644A;B | FLEXIBLE BEARING |
| 144 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 145 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 146 | | FLAT HEAD M4×8 |
| 147 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 148 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 149 | | PAN HEAD M4×8 |
| 150 | 09:A39083C | BOBBIN |
| 151 | 05:B46880 | POLE PIECE |
| 152 | 00:B44509 | MAGNET |
| 153 | 05:B48233B | YOKE |
| 154 | PZ:2481 | POSITION SENSOR BOARD |
| 155 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |

# EXPLODED VIEW 2

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 156 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 157 | PZ:2500B | ANALOG BOARD |
| 158 | | ALLEN HEAD BOLT M4×20 |
| 159 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 160 | | ALLEN HEAD BOLT M4×25 |
| 161 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 162 | | ALLEN HEAD WITH HOLE M5×30 |
| 163 | 05:A46369 | FOUR CORNER ADJUSTMENT SCREW |
| 164 | 03:A21386D-2 | MAIN MECHANICAL FRAME |
| 165 | | PARALEL PIN $\phi$5×10 |
| 166 | 00:A47004 | FOUR CORNER SPRING |
| 167 | 05:B48675 | MAGNET HOLDER BASE |
| 168 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 169 | | PAN HEAD M4×10 |
| 170 | | PAN HEAD M4×5 |
| 171 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 172 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 173 | 04:B47127 | FLEXIBLE BEARING |
| 174 | 04:B47104 | LOWER FEXIBLE ASSY |
| 175 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 176 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 177 | | PAN HEAD M4×8 |
| 178 | 03:A10186B | LOWER CASE |
| 179 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 180 | | ALLEN HEAD BOLT M4×10 |
| 181 | | PAN HEAD M4×8 |
| 182 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 183 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 184 | 04:B48933 | FLEXIBLE BEARING |
| 185 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 186 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 187 | | PAN HEAD M4×5 |
| 188 | 03:A38507E | SUSPENSION GUIDE |
| 189 | 04:B48690A | WEIGHT ARM |
| 190 | | SPRING WASHER M3 |
| 191 | | ALLEN HEAD BOLT M3×10 |
| 192 | | PAN HEAD M4×5 |
| 193 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 194 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 195 | 04:B48933 | FLEXIBLE BEARING |
| 196 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 197 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 198 | | PAN HEAD M4×8 |
| 199 | 05:A46919 | UNDERHOOK |
| 200 | 10:1010801-15006 | ROLL SPRING PIN |
| 201 | 10:1010801-15006 | ROLL SPRING PIN |
| 202 | 04:B48930 | TENSION BEARING |
| 203 | 04:B47108 | LOWER TENSION BEARING HOLDER |
| 204 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 205 | | PAN HEAD M4×8 |
| 206 | | PAN HEAD M4×8 |
| 207 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 208 | 04:B47107 | UPPER TENSION BEARING HOLDER |
| 209 | 04:B48690A | WEIGHT ARM |
| 210 | | SPRING WASHER M3 |

# EXPLODED VIEW 2

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 211 | | ALLEN HEAD BOLT M3×10 |




# EXPLODED VIEW-2
## HX-3000

# EXPLODED VIEW 1

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 1 | 04:A39256 | WEIGHTING PAN |
| 2 | | FLAT HEAD M3×6 |
| 3 | 05:B43841A | WASHER RING |
| 4 | 04:A39328 | PAN SUPPORT |
| 5 | 09:B49984 | PAN SUPPORT BUSHING |
| 6 | | |
| 7 | 07:A10192 | UPPER CASE |
| 8 | 07:B49002-2 | LEFT SUPPORT CAP |
| 9 | 07:B49002-1 | RIGHT SUPPORT CAP |
| 10 | 04:A39220A | REAR PANEL |
| 11 | | PAN HEAD WITH SPRING WASHER M4×6 |
| 12 | KO:914-53 | CABLE |
| 13 | | PAN HEAD WITH SPRING WASHER M4×6 |
| 114 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 15 | PZ:2499 | INTERFACE BOARD |
| 16 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 17 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 18 | 05:B47130A | WEIGHT FOR HX3000 |
| 19 | 05:B47130A | WEIGHT FOR HX3000 |
| 20 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 21 | 04:B47132 | WEIGHT SEESAW L |
| 22 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 23 | 04:B47131 | WEIGHT SEESAW R |
| 24 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 25 | 04:B47134 | UPPER SEESAW STOP |
| 26 | 04:B47136B | LEAF SPRING FOR SEESAW |
| 27 | 04:B47135 | LOWER SEESAW STOP |
| 28 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 29 | 07:B40278 | SHAFT BRACKET |
| 30 | 05:B49005A | PC GUIDE |
| 31 | | BINDING HEAD M4×4 |
| 32 | 00:B46916 | BUBBLE SPIRIT LEVEL |
| 32 | 05:B49003A | BUBBLE LEVEL HOLDER |
| 33 | | BINDING HEAD M3×6 |
| 34 | 02:B48692 | BLANK PANEL |
| 35 | 03:A10186A | LOWER CASE |
| 36 | 07:76735A | LEVELING FOOT |
| 37 | 05:B49004A | CABLE GUIDE |
| 38 | | LOCK NUT M10 |
| 39 | | FLAT HEAD ALLEN SCREW M4×8 |
| 40 | 04:B48708A-1 | WEIGHT STOP |
| 41 | | KNURELED HEAD BOLT M4×10 |
| 42 | 05:B49004A | CABLE GUIDE |
| 43 | 07:A46735A | LEVELING FOOT |
| 44 | 07:B46858 | UNDERHOOK CAP |
| 45 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |
| 46 | PZ:2498 | POWER SUPPLY BOARD |
| 47 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 48 | | KNURELED HEAD BOLT M4×10 |
| 49 | | FLAT HEAD ALLEN SCREW M3×15 |
| 50 | 05:B47178 | WELLNUT BUSHING STOP |
| 51 | 10:C-330L | WELLNUT BUSHING |
| 52 | 05:B48938A | SUPPORT FOR LOGIC BOARD |
| 53 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |
| 54 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |

# EXPLODED VIEW 1

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 55 | 03:B48654-1 | CASE CONNECTOR R |
| 56 | | ROLL SPRING PIN φ3×12 |
| 57 | 07:B49032 | DISPLAY SUPPORT |
| 58 | 03:A21398 | DISPLAY LOWER CASE |
| 59 | 10:SJ-5012 | RUBBER FOOT |
| 60 | 07:B49023 | DISPLAY SUPPORT STOP |
| 61 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 62 | 10:SJ-5012 | RUBBER FOOT |
| 63 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 64 | 03:B48654-2 | CASE CONNECTOR L |
| 65 | | PAN HEAD WITH SPRING AND PLAIN WASHER M4×8 |
| 66 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 67 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 68 | PZ:2501 | DISPLAY BOARD |
| 69 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 70 | 07:A21399 | DISPLAY UPPER CASE |
| 71 | 09:A39217 | SILICON SWITCH COVER SHEET |
| 72 | 01:A39661 | DISPLAY FILTER |
| 73 | 10:A35234 | GEARED MOTOR |
| 74 | | NUT M3 |
| 75 | 04:B48672 | MOTOR SUPPORT |
| 76 | | PAN HEAD M1.4×4 |
| 77 | 07:B47133A | CAM DRIVING SEESAW |
| 78 | | ALLEN HEAD WITH HOLE M3×3 AND M3×6 |
| 79 | 09:B40470C | SWITCH CAM |
| 80 | 04:B40464 | COAXIAL BRACKET |
| 81 | | ALLEN HEAD WITH HOLE M6×10 |
| 82 | 00:B47414 | PLUNGER |
| 83 | 10:3/16 | STEEL BALL |
| 84 | | FLAT HEAD ALLEN SCREW BOLT M4×8 |
| 85 | 05:B49004A | CABLE GUIDE |
| 86 | 05:B49004A | CABLE GUIDE |
| 87 | 05:B48938A | SUPPORT FOR LOGIC BOARD |
| 88 | 04:B48708A-1 | WEIGHT STOP |
| 89 | 10:3/16 | STEEL BALL |
| 90 | 00:B47414 | PLUNGER |
| 91 | | ALLEN HEAD WITH HOLE M6×10 |
| 92 | 04:B47135 | LOWER SEESAW STOPPER |
| 93 | 04:B47134 | UPPER SEESAW STOPPER |
| 94 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 95 | 05:B46148 | CAM SHAFT |
| 96 | | ALLEN HEAD WITH HOLE M3×3 |
| 97 | PZ:2513 | MOTOR BOARD |
| 98 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |
| 99 | PZ:2497 | LOGIC BOARD |
| 100 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |

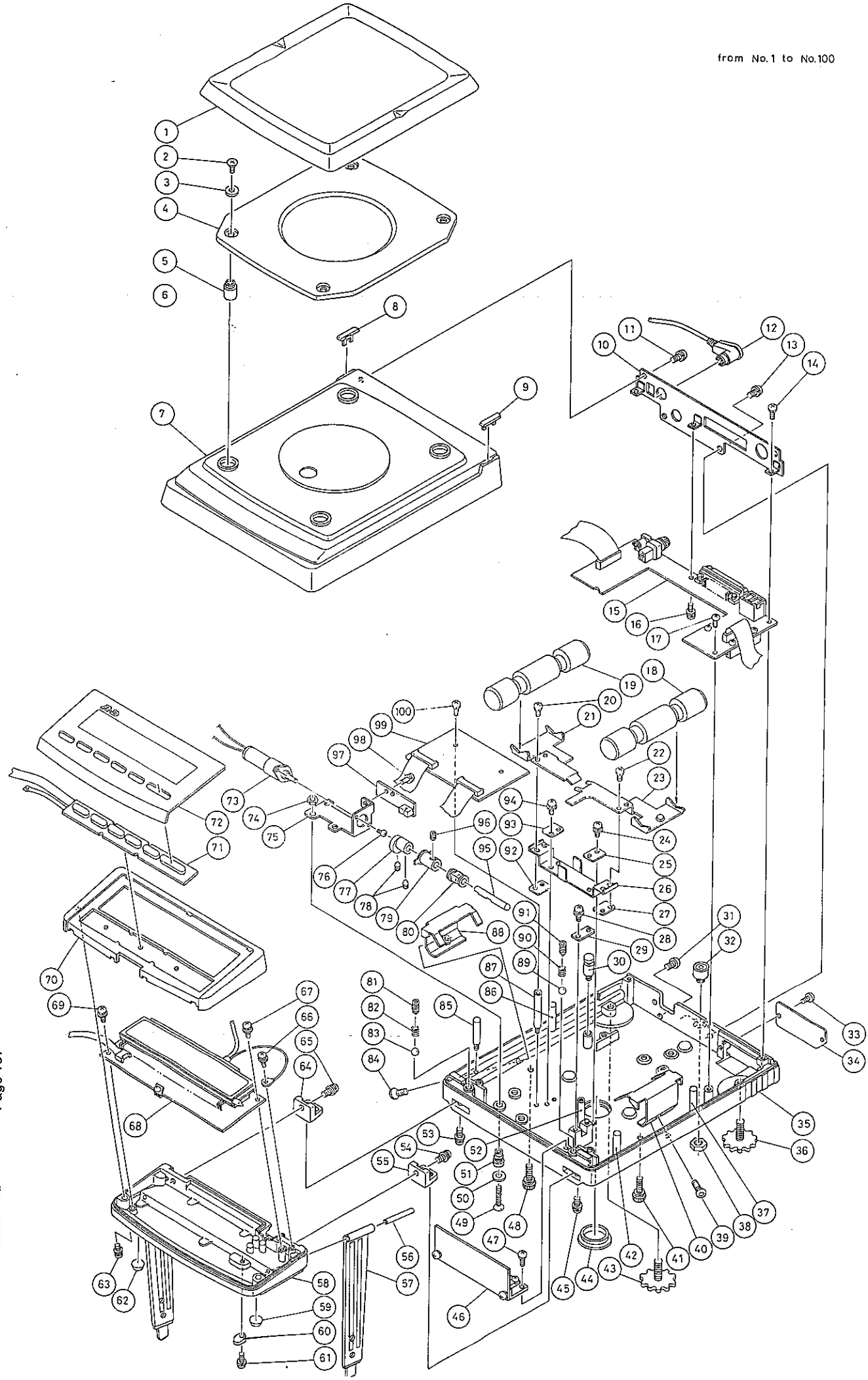
from No.1 to No.100

# EXPLODED VIEW – 1

## HX – 6000







# EXPLODED VIEW 2

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 101 | | ALLEN HEAD BOLT M4×8 |
| 102 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 103 | 03:A21391C | PAN SUPPORT RECEIVER |
| 104 | 05:B48937 | PAN SUPPORT RECEIVER BLOCK |
| 105 | 04:B47912A-2 | SHOCK ABSORBER LEAF SPRING |
| 106 | 04:B43841A | WASHER M3 |
| 107 | | FLAT HEAD M3×6 |
| 108 | 05:B47120A | SHOCK ABSORBER BLOCK |
| 109 | | ALLEN HEAD BOLT M4×12 |
| 110 | | ALLEN HEAD BOLT M4×12 |
| 111 | 05:B48937 | PAN SUPPORT RECEIVER BLOCK |
| 112 | 04:B43841A | WASHER M3 |
| 113 | | FLAT HEAD M3×6 |
| 114 | 05:B48937 | PAN SUPPORT RECEIVER BLOCK |
| 115 | 04:B47912A-1 | SHOCK ABSORBER LEAF SPRING |
| 116 | 04:B43841A | WASHER M3 |
| 117 | | PAN HEAD M3×6 |
| 118 | 05:B47120A | SHOCK ABSORBER BLOCK |
| 119 | | ALLEN HEAD BOLT M4×12 |
| 120 | | ALLEN HEAD BOLT M4×12 |
| 121 | 05:B48937 | PAN SUPPORT RECEIVER BLOCK |
| 122 | 04:B43841A | WASHER M3 |
| 123 | | FLAT HEAD M3×6 |
| 124 | 04:B47103 | UPPER FLEXIBLE BEARING ASSY |
| 125 | | PAN HEAD M4×8 |
| 126 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 127 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 128 | 04:B48933 | FLEXIBLE BEARING |
| 129 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 130 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 131 | | PAN HEAD M4×5 |
| 132 | | PAN HEAD WITH SPRING WASHER M3×6 |
| 133 | 04:B47740-1 | STOP PLATE |
| 134 | | PAN HEAD WITH SPRING WASHER M3×6 |
| 135 | 04:B47737 | SHIELD PLATE |
| 136 | 05:B47106 | STOP PIN |
| 137 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 138 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 139 | PZ:2546 | RELAY BOARD |
| 140 | 03:A39135F-2 | POSITION BEAM |
| 141 | 10:P1.5×6 | ROLL SPRING PIN |
| 142 | 10:P1.5×6 | ROLL SPRING PIN |
| 143 | 04:A47644A | FLEXIBLE BEARING |
| 144 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 145 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 146 | | FLAT HEAD M4×8 |
| 147 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 148 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 149 | | PAN HEAD M4×8 |
| 150 | 09:A39083C | BOBBIN |
| 151 | 05:B46880-1 | POLE PIECE |
| 152 | 00:B44509A | MAGNET |
| 153 | 05:B48233B | YOKE |
| 154 | PZ:2481C | POSITION SENSOR BOARD |
| 155 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×6 |

# EXPLODED VIEW 2

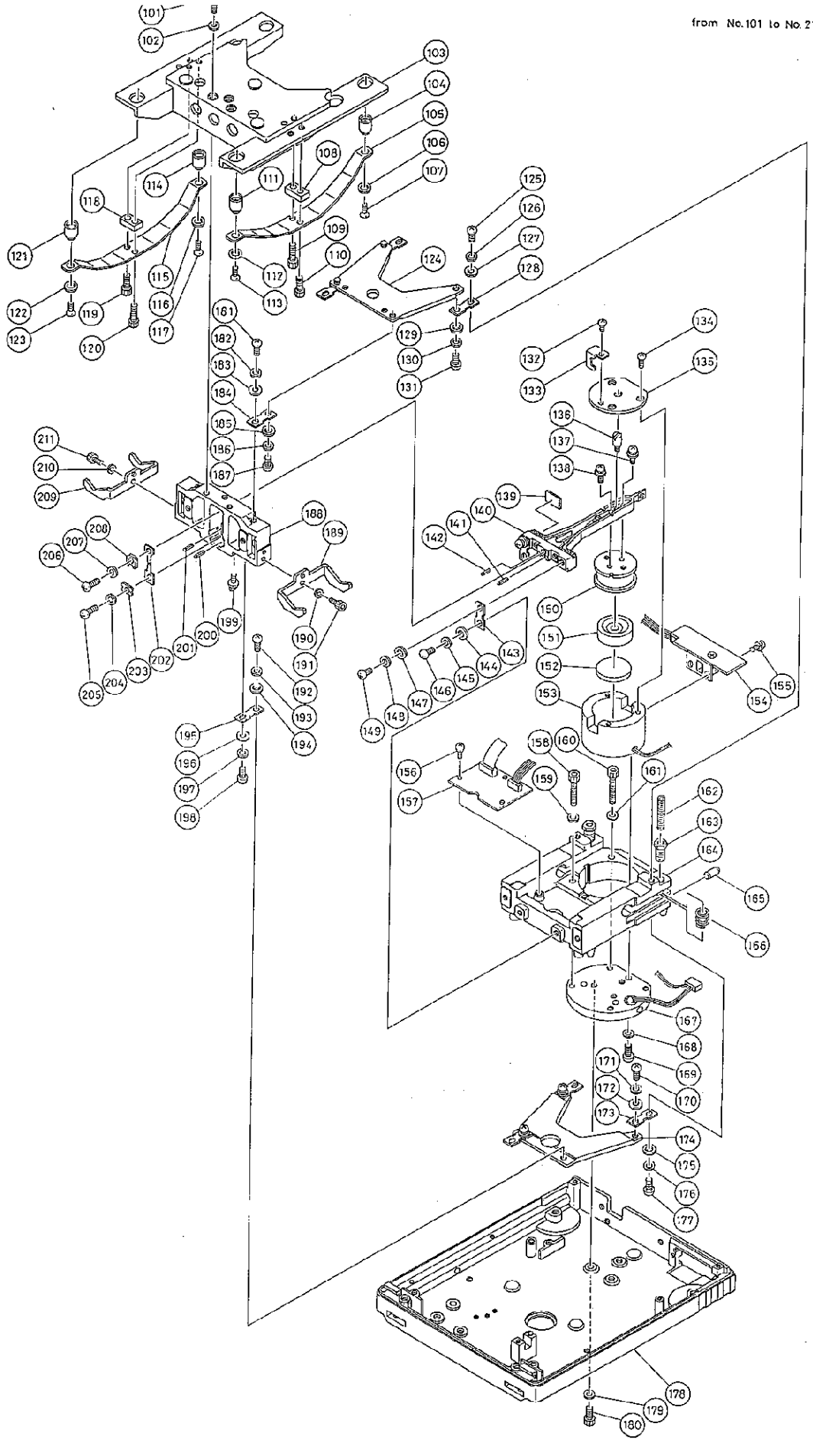
| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 156 | | PAN HEAD WITH SPRING AND PLAIN WASHER M3×8 |
| 157 | PZ:2500C | ANALOG BOARD |
| 158 | | ALLEN HEAD BOLT M4×20 |
| 159 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 160 | | ALLEN HEAD BOLT M4×25 |
| 161 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 162 | | ALLEN HEAD WITH HOLE M5×30 |
| 163 | 05:A49401 | FOUR CORNER ADJUSTMENT SCREW |
| 164 | 03:A21386D-2 | MAIN MECHANICAL FRAME |
| 165 | 10:P5×10 | PARALEL PIN φ5×10 |
| 166 | 00:A47004 | FOUR CORNER SPRING |
| 167 | 05:B48675A | MAGNET HOLDER BASE |
| 168 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 169 | | PAN HEAD M4×10 |
| 170 | | PAN HEAD M4×5 |
| 171 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 172 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 173 | 04:B48933 | FLEXIBLE BEARING |
| 174 | 04:B47104 | LOWER FLEXIBLE BEARING ASSY |
| 175 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 176 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 177 | | PAN HEAD M4×8 |
| 178 | 03:A10186B | LOWER CASE |
| 179 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 180 | | ALLEN HEAD BOLT M4×10 |
| 181 | | PAN HEAD M4×8 |
| 182 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 183 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 184 | 04:B48933 | FLEXIBLE BEARING |
| 185 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 186 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 187 | | PAN HEAD M4×5 |
| 188 | 03:A38507E | SUSPENSION GUIDE |
| 189 | 04:B48690A | WEIGHT ARM |
| 190 | | SPRING WASHER M3 |
| 191 | | ALLEN HEAD BOLT M3×10 |
| 192 | | PAN HEAD M4×5 |
| 193 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 194 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 195 | 04:B48933 | FLEXIBLE BEARING |
| 196 | 05:B49476 | FLEXIBLE BEARING WASHER |
| 197 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 198 | | PAN HEAD M4×8 |
| 199 | 05:A46919 | UNDERHOOK |
| 200 | 10:P1.5×6 | ROLL SPRING PIN |
| 201 | 10:P1.5×6 | ROLL SPRING PIN |
| 202 | 04:B48930 | TENSION BEARING |
| 203 | 04:B47108 | LOWER TENSION BEARING HOLDER |
| 204 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 205 | | PAN HEAD M4×8 |
| 206 | | PAN HEAD M4×8 |
| 207 | 10:S-NO-1-SUS | CONICAL SPRING WASHER |
| 208 | 04:B47107 | UPPER TENSION BEARING HOLDER |
| 209 | 04:B48690A | WEIGHT ARM |
| 210 | | SPRING WASHER M3 |

# EXPLODED VIEW 2

| NO. | PARTS NAME | DESCRIPTION |
|---|---|---|
| 211 | | ALLEN HEAD BOLT M3×10 |

# EXPLODED VIEW - 2
# HX - 6000

from No. 101 to No. 211



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