

INSTRUCTION MANUAL

EX-20KA
EY-22KA
EX-8000A
EY-8200A
EY-6000A

A & D Company, Ltd.

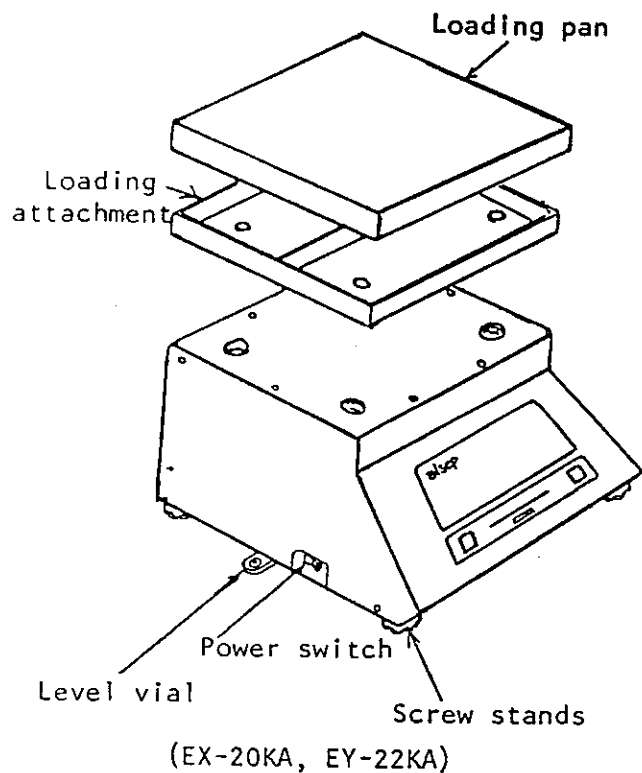
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INSTALLATION

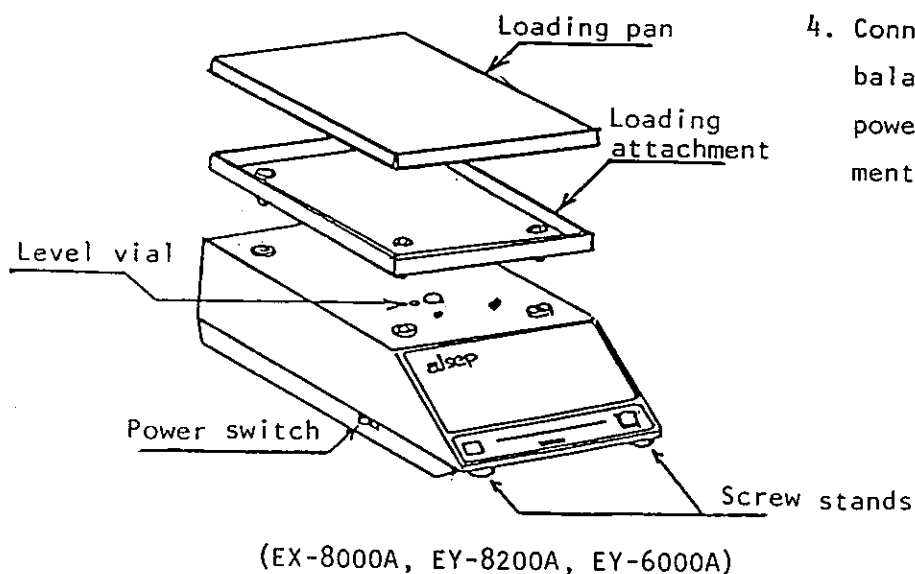
Setting up



1. Place the balance on a balance table or flat rigid table free from vibration. Avoid an installation site with direct sunlight and/or full of dust.

2. Adjust the four screw stands so that a bubble in the Level vial will be in the center. Refer to Figure 1.

3. Place the loading attachment and the loading pan on the balance as shown in Figure 1.

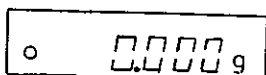
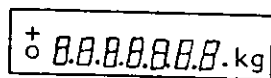


4. Connect the line power to the balance. Be sure that the AC power source matches the instrument's power requirements.

Figure 1.

Power ON

1. Turn on the power switch and watch the display show all the segments and become zero as below.



Be sure to check all the segments on the display when the power is turned on.

2. Be familiarized with the panel descriptions, refer to Figure 2.
Warm-up time of 30 minutes is recommended before proceeding to the next step.

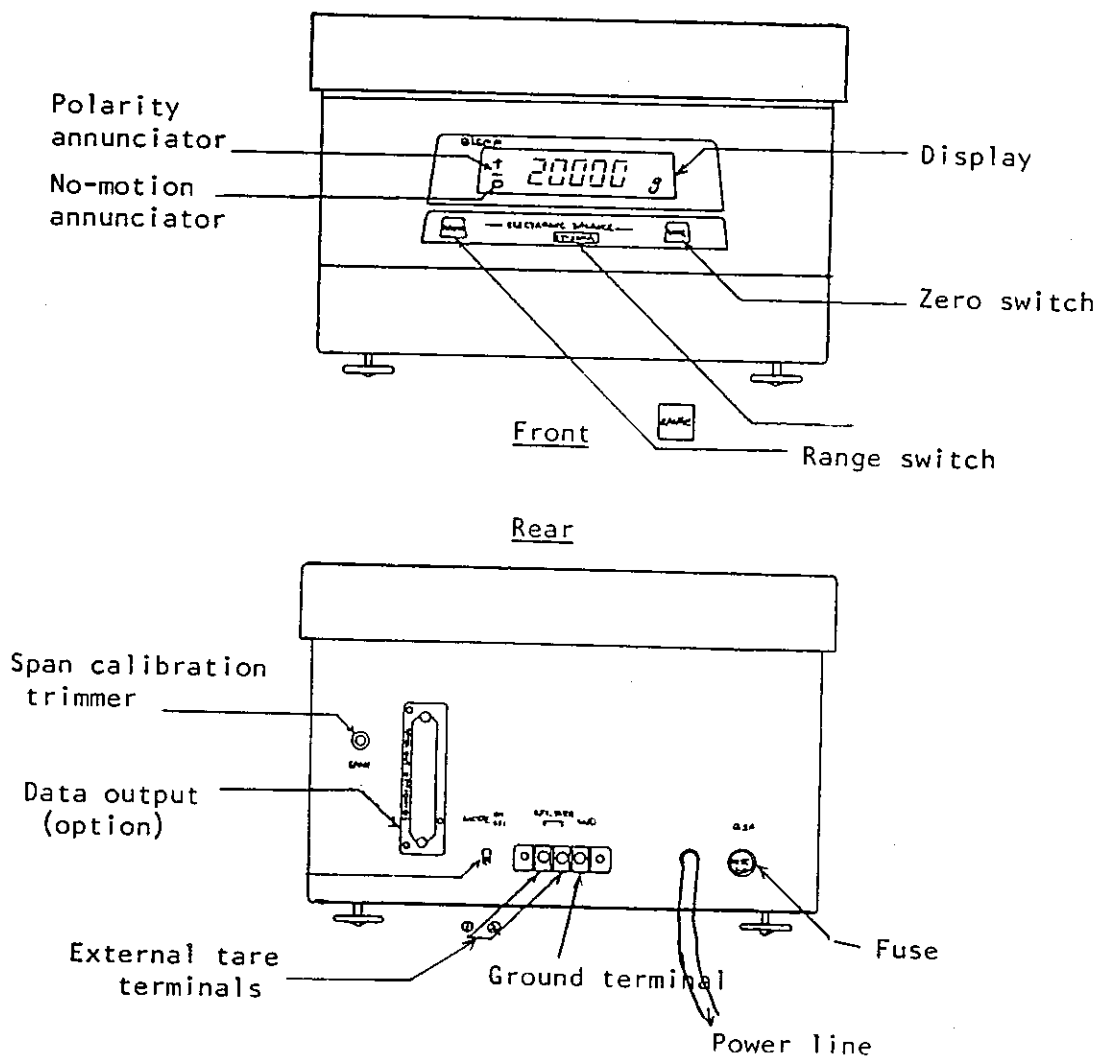


Figure 2.

Operation

1. Push ZERO switch on the front panel to make the display zero before weighing.
2. Place material to be weighed on the loading pan and wait a few second until the display becomes stable. When the display is stabilized, the No-motion annunciator will be on and the display indicates the weight of the material on the loading pan.
3. By pushing TARE switch the display will become zero upto the full capacity of the balance. When TARE switch is pushed, the display blanks out except the decimal point and the unit until the weight comes into No-motion.

Range Selection (EY-22KA, EY-8200A)

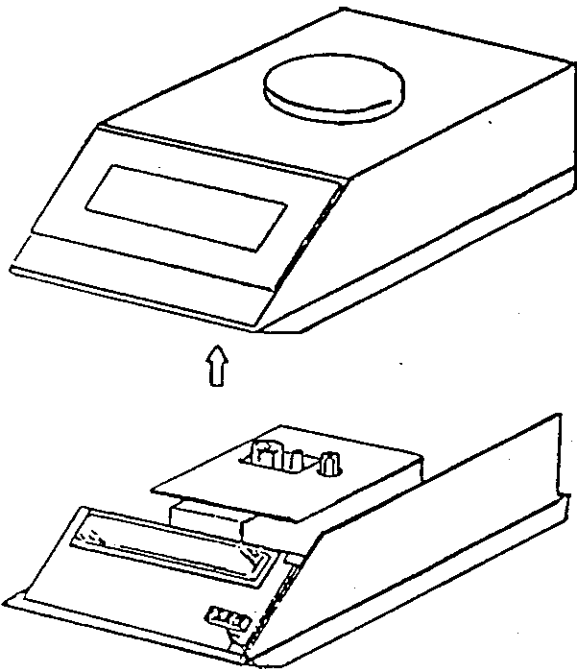
1. Weighing range can be selected by pushing Range switch.
2. Weighing capacity by range selection will be as below.

Range		Readability
EY-22KA	20000g	1 g
	2000g	0.1g
EY-8200A	8000g	500mg
	800g	50mg

Display Indication

- + 0.0g The display is stabilized at zero.
- + 1000.0g The display is stabilized at 1000.0g.
- + 099.9g The display is not stabilized
- +E Overload indication
For EY-22KA and EY-8200A overload is applicable to each range
- E Tare value of more than max. capacity has been acquired and an indication to be in negative, exceeds the max. capacity after weight is removed. Indicates that the display is below the tare capacity.
- P Indicates that the loading pan and/or attachment are off or not placed properly.

Internal Setting



Dip switches for internal setting
Figure 4.

1. Averaging time, display rate and No-motion band can be programmed by the internal dip switches located inside as shown in Figure 4.
2. The upper case can be removed by undoing the screw 1 as shown in Figure 1 and raising the case straight upward.
3. Refer to Table 1 for the averaging time setting, Table 2 for the display rate setting and Table 3 for the no-motion band setting.

Table 1 : Averaging time setting

SW NO.		Averaging time
No. 1	No. 2	
ON	ON	1 second
ON	OFF	2 second
OFF	ON	4 second
OFF	OFF	6 second

Table 2 : Display rate setting

SW NO.		Display rate	
No. 3	No. 4	In motion	In no-motion
ON	ON	1/8 second	1/4 second
OFF	ON	1/4 second	1/2 second
ON	OFF	1/4 second	1/4 second
OFF	OFF	1/2 second	1/2 second

Table 3 : No-motion band setting

SW NO.		No-motion band
No. 7	No. 8	
ON	ON	± 1 d
ON	OFF	± 2 d
OFF	ON	± 4 d
OFF	OFF	± 8 d

Note: Other switches are for internal use only. Switches No.5 and No. 6 should be kept off all the time.

Span Calibration

Span calibration can be performed in the following procedures after warm-up time of more than 30 minutes.

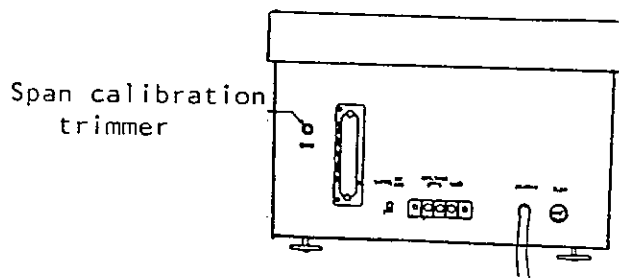


Figure 4.

1. Take off the plastic cover. Then, the span calibration trimmer can be reached and turned by the (-) driver.
2. Be sure that nothing is on the loading pan and that the loading pan and the attachment are properly placed.

3. Push TARE switch and make the display zero.
4. Place a standard weight corresponding to max. capacity on the loading pan and adjust the calibration trimmer so that the display matches the standard weight.
5. Remove the standard weight from the loading pan, and if the display does not return to zero, push TARE switch and repeat the procedures.

Note: (i) It may be necessary to repeat three or four times the procedures from 3 to 5 before the balance is completely calibrated.

(ii) The ambient temperature for span calibration is recommended to be between 20°C and 25°C.

PRALLEL BCD OUTPUT (OPTION 01)

BCD OUTPUT can be installed as option 01, then the precision balance can directly interfaced with our peripherals such as AD-8113 Intelligent Printer and AD-8114 Digital Printer.

(1) Pin Designation

TTL level, Positive logic, Fanout 3

Mating Connector : 57-30500

Pin No.	Signal	Pin No.	Signal	
1	Logic GND	26	1	
2	} x 10 ⁰ } DATA	27	2	
3		4	28	4
4		8	29	8
5		8	30	10 ⁵
6	} x 10 ¹	31	10 ⁶ } Decimal Point	
7		2	32	10 ⁷ }
8		4	33	NO-MOTION
9	8	34	1	
10	1	35	2	
11	2	36	4	
12	} x 10 ²	37	8	
13		8	38	1
14	1	39	2	
15	2	40	4	
16	} x 10 ³	41	8	
17		8	42	Polarity (+) for Hi
18	1	43	10 ¹	
19	2	44	10 ² } Decimal Point	
20	} x 10 ⁴	45	10 ³	
21		8	46	10 ⁴
22	1	47	OVER	
23	2	48	Polarity Inhibit	
24	} x 10 ⁵	49	PRINT COMMAND	
25		8	50	BUSY (input)

NOTES

1. Pin No. 33 (NO-MOTION) gives Hi when display is stable.
2. Pin No. 42 gives Hi for (+) and Lo for (-).
3. Decimal point signal is given only for the decimal position corresponding to the model concerned.
4. The width of PRINT COMMAND signal is approx. 1m sec. (positive pulse).
5. Polarity Inhibit signal is Lo only when display is either ZERO and also Lo when TARE is being activated.
6. When Pin No. 50 (BUSY) is kept Lo, the BCD output signals are latched
FANOUT : 1

(2) MODE ON/OFF Switch

PRINT COMMAND signal acts as below according to the Mode Switch located on the rear.

1. MODE OFF

When this Mode Switch is OFF, PRINT COMMAND is putout synchronized with the display.

2. Mode ON

When this Mode Switch is ON, automatic print function is activated as below.

PRINT COMMAND signal is given only when Display exceeds 10 d be in no motion for a period of the specified time (judgement time) and PRINT COMMAND signal not given again unless Display returns to below 10 d.

The period of time (judgement time) until PRINT COMMAND signal is given after display exceeds 10 counts can be programmed by the combination of the dip switches No. 5 and No. 6 as below.

Dip switch		Judgement time
NO.5	NO.6	
OFF	OFF	2 sec.
OFF	ON	1.5 sec.
ON	OFF	1 sec.

Note: Do not set above switches both ON.

SUSPENSION WEIGHING (OPTION 05)

Suspension weighing instead of top loading weighing is possible by using the hook provided underneath.

Attach a proper loading pan to the hook underneath.

Using a heavy loading pan may reduce the available loading capacity.