



NATIONAL STANDARDS COMMISSION

NATIONAL MEASUREMENT (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 6/4D/207

This is to certify that an approval for use for trade has been granted in respect of the pattern and variants of the

Anritsu Model K560A Weighing Instrument

submitted by Parker Holland (Australia) Pty Ltd
16 Gertrude Street
Arncliffe NSW 2205.

Conditions of Approval

This approval is subject to review on or after 1/5/87.
This approval expires in respect of new instruments on 1/5/88.

Instruments purporting to comply with this approval shall be marked NSC No 6/4D/207.

This approval may be withdrawn if instruments are constructed other than as described in the drawings and specifications lodged with the Commission.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificates Nos S1/0 and/or S2/0, as appropriate.

Signed

Executive Director

Descriptive Advice

Pattern: approved 16/3/82

- A self-indicating price-computing weighing and label printing instrument known as a model K560A.

Maximum capacity is 5 kg when the conveyor is in motion. Maximum speed of the conveyor is 60 packages/minute.

Variants: approved 16/3/82

1. Anritsu model K584B, with the speed of the conveyor limited to a maximum of 40 packages/minute.
2. One only model K560A (Serial No 09221), at Meatex (Woolworths), Brisbane, Qld.

Technical Schedule No 6/4D/207 describes the pattern and variants 1 and 2.

Variants: approved 30/9/86

3. Model K584D dual-range instrument of 6 kg maximum capacity.
4. Model K587DS which is similar to variant 3 but does not weigh dynamically.

Technical Schedule No 6/4D/207 Variation No 1 describes variants 3 and 4.

Filing Advice

Certificate of Approval No 6/4D/207 dated 19/11/82 is superseded by this Certificate and may be destroyed.

The documentation for this approval now comprises:

Certificate of Approval No 6/4D/207 dated 17/3/87
Technical Schedule No 6/4D/207 dated 19/11/82
Technical Schedule No 6/4D/207 Variation No 1 dated 17/3/87
Test Procedure No 6/4D/207 dated 19/11/82
Test Procedure No 6/4D/207 Variation No 1 dated 17/3/87
Figures 1 to 8 dated 19/11/82
Figures 9 and 10 dated 17/3/87



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/207

Pattern: Anritsu Model K560A Weighing Instrument

Submittor: Yamato Weighing Systems Pty Ltd
16 Gertrude Street
Arncliffe, New South Wales, 2205.

1. Description of Pattern

The pattern is a self-indicating price-computing weighing and label printing instrument known as model K560A (Figures 1, 2 and 3).

Capacity	9.995 kg
Scale interval	0.005 kg
Tare	-0.995 kg
Unit price	to \$99.99/kg in 1c increments
Price	to \$99.99 in 1c increments

The instrument may be used statically or dynamically (i.e. conveyor stopped or moving). Maximum capacity for dynamic use is 5 kg, with a maximum conveyor speed of 60 packages/minute.

1.1 Zero

Zero within 0.25e, indicated by the ZERO light being illuminated, may be obtained either automatically, whenever the instrument comes to rest within 0.5e of zero or semi-automatically by using the ZERO push button when zero has changed by one scale interval or more.

1.2 Tare

- (a) A semi-automatic subtractive taring device allows a mass on the load receptor of up to a 0.995 kg to be tared to within 0.25e.
- (b) A tare mass indicator displays the tared mass.

1.3 Display Check

When power is applied the indicators display 0-9 in sequence, all 8's flash, then the indicators display 0-9 in sequence again. An audible signal denotes that the test sequence is complete.

The instrument must be manually zeroed before weighing can commence.

1.4 Label Printer

Labels are produced in the form shown in Figure 4. In static weighing operation the labels are produced by pressing the MANUAL LABEL ISSUE button after pressing the START button. In dynamic weighing the labels are automatically issued and 'blown' onto the article being weighed.

1.5 Markings

The instrument is marked with the following data, together in one location:

Manufacturer's name or mark	
Serial number	
NSC approval number	NSC No 6/4D/207
Accuracy class	III
Maximum capacity	Max 9.995 kg *
Minimum capacity	Min 0.1 kg *
Scale interval	d(or d_d) = e = 0.005 kg *
Maximum subtractive tare	T = -0.995 kg

The instrument is also marked NOT FOR RETAIL COUNTER USE.

1.6 Sealing

The calibration adjustments are in the weighing unit housing and are sealed with a lead and wire seal and/or stamping plug (Figure 3).

1.7 Levelling

The weighing unit is suspended in the instrument framework which is fitted with four adjustable feet (Figures 1 and 3). A notice is fitted advising that the instrument must be level when in use.

2. Description of Variants

2.1 Variant 1

Anritsu model K584B, with conveyor speed limited to a maximum of 40 packages/minute (Figure 5).

2.1.1 Sealing

Similar to that for the pattern, see Figure 6.

2.2 Variant 2

One only model K560A (Serial No 09221) at Meatex (Woolworths) Brisbane, Qld, having unit price in 1c increments to \$9.99/kg and price to \$99.85 with the weighing unit separate to the instrument and the calibration adjustments in the indicator (Figure 7).

2.2.1 Sealing

The calibration adjustments are in the indicator on this particular instrument, and are sealed with lead and wire seals and/or stamping plugs on the indicator housing (Figure 7).

2.2.2 Levelling

The weighing unit has a level indicator, three adjustable feet and a notice advising that the unit must be level when in use (Figures 7 and 8).

* These markings are repeated in the vicinity of the mass indicator, if not already there.

TEST PROCEDURE No 6/4D/207

All load applications to the instrument should be in accordance with the Commission's recommended testing procedure for the elimination of rounding error as set out in Document 104.

Accuracy Requirements

The maximum permissible errors are:

- $\pm 0,5e$ for loads between 0 and 500e inclusive; and
- $\pm 1,0e$ for loads between 501e and 2000e.

1. Static Tests

1.1 Zero Test

As the automatic device resets zero when the weighing mechanism is in equilibrium within 0.5e of zero, zero should be checked with a load equal to, say, 10e on the load receptor. The indications with 0.25e and 0.75e additional mass on the load receptor should then be 10e and 11e respectively.

1.2 Zero Range

The maximum range of operation of the zero adjusting device should not exceed 4% of the capacity of the instrument ($\pm 2\%$ approximately). Satisfactory setting may be checked by the following method:

- (a) With zero balance indicated, apply a load of, say, 2.5% of maximum capacity to the instrument and operate the ZERO button; the instrument should not re-zero.
- (b) Reduce the load to, say, 1.5% and again press the ZERO button; the instrument should now zero.

1.3 Tare

Attempt to tare a mass greater than 0.995 kg; this should not be possible.

1.4 Price-computing Accuracy

The indication of mass, unit price and price as listed in Tables 1 and 2 as appropriate will indicate that the price-computing and mass circuits are functioning correctly. The figures should be indicated exactly as in the tables as rounding is effected within the computer.

1.5 Range of Indication

- (a) The maximum mass indicated should not exceed the maximum capacity (Max) by more than 10e; above this the indicator should be blank.
- (b) Above maximum capacity (Max) the label printer should not operate when the MANUAL LABEL ISSUE button is pressed.

1.6 Load Test to 9,995 kg

Test loads are applied to the instrument, with the first load equal to minimum capacity, increasing in not less than 5 approximately equal steps to maximum capacity, followed by decreasing loads of not less than 5 approximately equal steps to zero load. The instrument should display these loads within the above accuracy requirements.

1.7 Level Sensitivity

Note: This test may be completed in conjunction with Test 2.2.

As the automatic zero device may prevent the zero from changing when the instrument is tilted at zero load, the effect of tilt should be initially checked with a small load on the instrument, say, 10e.

When the instrument is tilted so that the bubble in the level indicator moves 2 mm, the indication of 10e should not change by more than 2e, and when, in the tilted position, the 10e load is removed and zero is allowed to automatically reset, or it is manually reset, the instrument when loaded should satisfy the above accuracy requirements.

2. Dynamic Tests

Tickets should be obtained, if possible, for the following tests.

2.1 Load Test to 5 kg

Test loads are to be applied to the instrument in not less than 5 steps to maximum capacity, as per 1.6.

2.2 Level Sensitivity

Having completed test 1.7, and with instrument in the tilted position, apply 5 test loads to the instrument with the first load equal to minimum capacity.

The instrument should display these loads within the accuracy requirements on Page 1.

2.3 Range of Indication

The maximum mass indicated should not exceed 5 kg by more than 10e; above this, the indicator should blank and no label should be printed.

TABLE 1

<u>Indicated Mass</u>	<u>Unit Price</u>	<u>Total Price</u>
kg	\$/kg	\$
0.000	00.00	00.00
0.100	99.99	10.00
0.150	93.99	14.10
0.500	49.44	24.72
1.000	30.51	30.51
9.000	11.11	99.99
9.995	10.00	99.95

Price-computing - 9.995 kg By 0.005 kg Instrument With Unit Price
To \$99.99/kg And Price To \$99.99

TABLE 2

<u>Indicated Mass</u>	<u>Unit Price</u>	<u>Total Price</u>
kg	\$/kg	\$
0.000	0.00	0.00
0.100	9.99	1.00
0.150	4.95	0.74
0.500	8.44	4.22
1.000	9.58	9.58
9.995	9.99	99.85

Price-computing - 9.995 kg By 0.005 kg Instrument With Unit Price
To \$9.99/kg And Price To \$99.85



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/207

VARIATION No 1

Pattern: Anritsu Model K560A Weighing Instrument

Submitter: Parker Holland (Australia) Pty Ltd
16 Gertrude Street
Arncliffe NSW 2205

1. Description of Variants

1.1 Variant 3

A model K584D dual-range self-indicating price-computing weighing and labelling instrument (Figure 9) of 3 kg capacity with a verification scale interval of 0.002 kg (low range) and 6 kg capacity with a verification scale interval of 0.005 kg (high range), with unit price to \$999.99/kg and total price to \$999.99. The measuring range is preset by the operator before weighing is commenced and remains in that range until the alternate range is selected. The range selected is indicated by the illumination of a light in the appropriate button.

1.1.1 Zero

Zero is automatically corrected to within $\pm 0.25e$ whenever the instrument comes to rest within $0.5e$ of zero. If the instrument comes to rest outside that range but within zero reset range, zero is reset whenever the zero button is pushed. The word ZERO is illuminated whenever zero is within $\pm 0.25e$.

1.1.2 Display Check

A display check is initiated whenever power is applied to the instrument or by operating the reset button.

1.1.3 Tare

The instrument has a non-automatic taring device of up to 998 g capacity (see cl. 1.1.4). Any of up to 9999 price-look-up (PLU) entries may be stored with the tare mass selected being displayed on a tare mass indicator.

1.1.4 Markings

Instruments are marked with the following data together in one location:

Manufacturer's name or mark	
Serial number	
NSC approval number	NSC No 6/4D/207
Accuracy class	(III)
High Range	
Maximum capacity	Max 6.0 kg *
Minimum capacity	Min 0.1 kg *
Verification scale interval	e = d = 0.005 kg *
Maximum subtractive tare	T = -995 g
Low Range	
Maximum capacity	Max 3.0 kg *
Minimum capacity	Min 0.04 kg *
Verification scale interval	e = d = 0.002 kg *
Maximum subtractive tare	T = -998 g

* These markings are repeated adjacent to each reading face.

The instrument is not for retail counter use and must be so marked.

1.1.5 Levelling

The instrument is provided with adjustable feet and adjacent to the level indicator is a notice advising that the instrument must be level when in use.

1.1.6 Verification Provision

Provision is made for a verification mark to be applied.

1.1.7 Dynamic Operation

(a) Operation in Low Range

When operating in the 3 kg maximum capacity range, the instrument may be used at HIGH or LOW speed with packages of up to approximately 100 mm x 300 mm, with the longest side aligned either in the direction of movement or transverse to the movement.

(b) Operation in High Range

When operating in the 6 kg maximum capacity range, the instrument may be used at LOW speed only, with packages of up to approximately 150 mm x 250 mm, with the longest side aligned either in the direction of movement or transverse to the movement.

1.1.8 Fixed Weight

When the key marked FIXED WT is selected the printer will produce labels with a constant weight. In this situation, the weighing function is disabled.

1.2 Variant 4

Model K587DS (Figure 10) which is similar to variant 3, however the instrument does not weigh dynamically (ie the packages stop while on the load receptor).



NATIONAL STANDARDS COMMISSION

TEST PROCEDURE No 6/4D/207

VARIATION No 1

All load applications to the instrument should be in accordance with the Commission's recommended testing procedure for the elimination of rounding error as set out in Document 104.

The maximum permissible errors are:

- ± 0.5e for loads between 0 and 500e;
- ± 1.0e for loads between 501e and 2000e; and
- ± 1.5e for loads above 2000e.

1. Static Tests

1.1 Zero Test

As the automatic device resets zero when the weighing mechanism is in equilibrium within 0.5e of zero, zero should be checked as described in Document 104, with a load equal to, say, 10e, on the load receptor. The indications with 0.25e and 0.75e additional mass on the load receptor will be 10e and 11e respectively.

1.2 Zero Range

The maximum range of operation of the zero setting device should not exceed 4% of the maximum capacity (±2% approximately). With zero balance indicated apply a load of, say, 2.5% of maximum capacity to the instrument and press the zero button; the instrument should not rezero.

1.3 Load Test

Test loads are to be applied to the instrument in not less than 5 approximately equal steps increasing to maximum capacity, followed by decreasing loads in not less than 5 approximately equal steps to zero load. This should be carried out in each measuring range.

1.4 Range of Indication

The maximum mass indicated should not exceed the marked maximum capacity by more than 10e; above this indicated mass the indication should be blank or show non-numerical characters. Below zero the indication should blank, or show non-numerical characters or show a mass preceded by a minus sign.

1.5 Taring

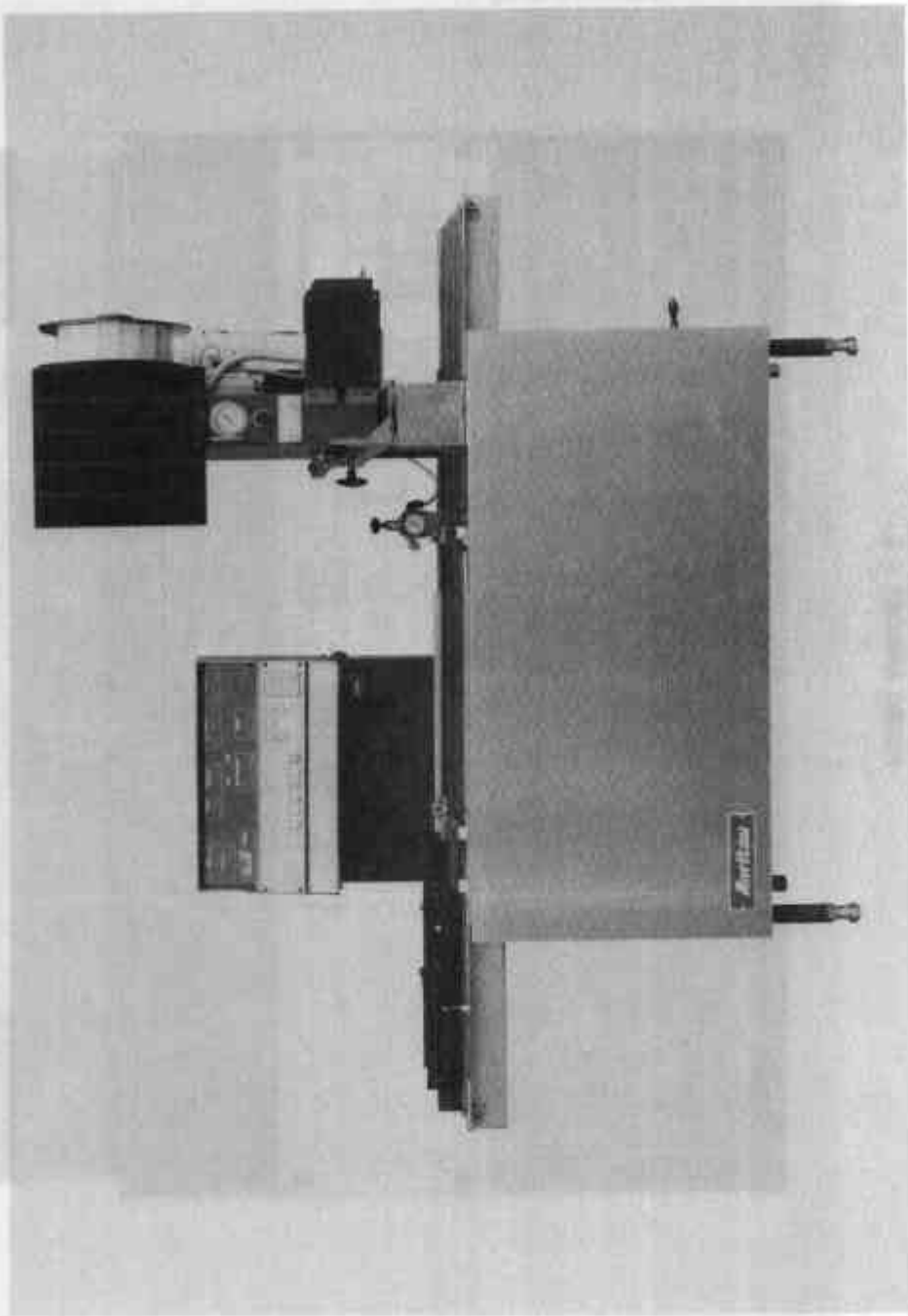
A tare should not be able to be acquired above the marked tare capacity.

The non-automatic tare function should be able to reset the mass indicator to zero within ±0.5e at any load within its capacity. This may be checked as described for Zero Test.

2. Dynamic Load Test

As for the static test, however particular attention should be paid to the test method described in Document 104 as methods involving the finding of a changeover point cannot be employed. For the application of these tests sample packages may be required which should be adjusted to the masses required by Document 104.

FIGURE 6/40/207 - 1



Anritsu Model K560A

19/11/82

08/11/82

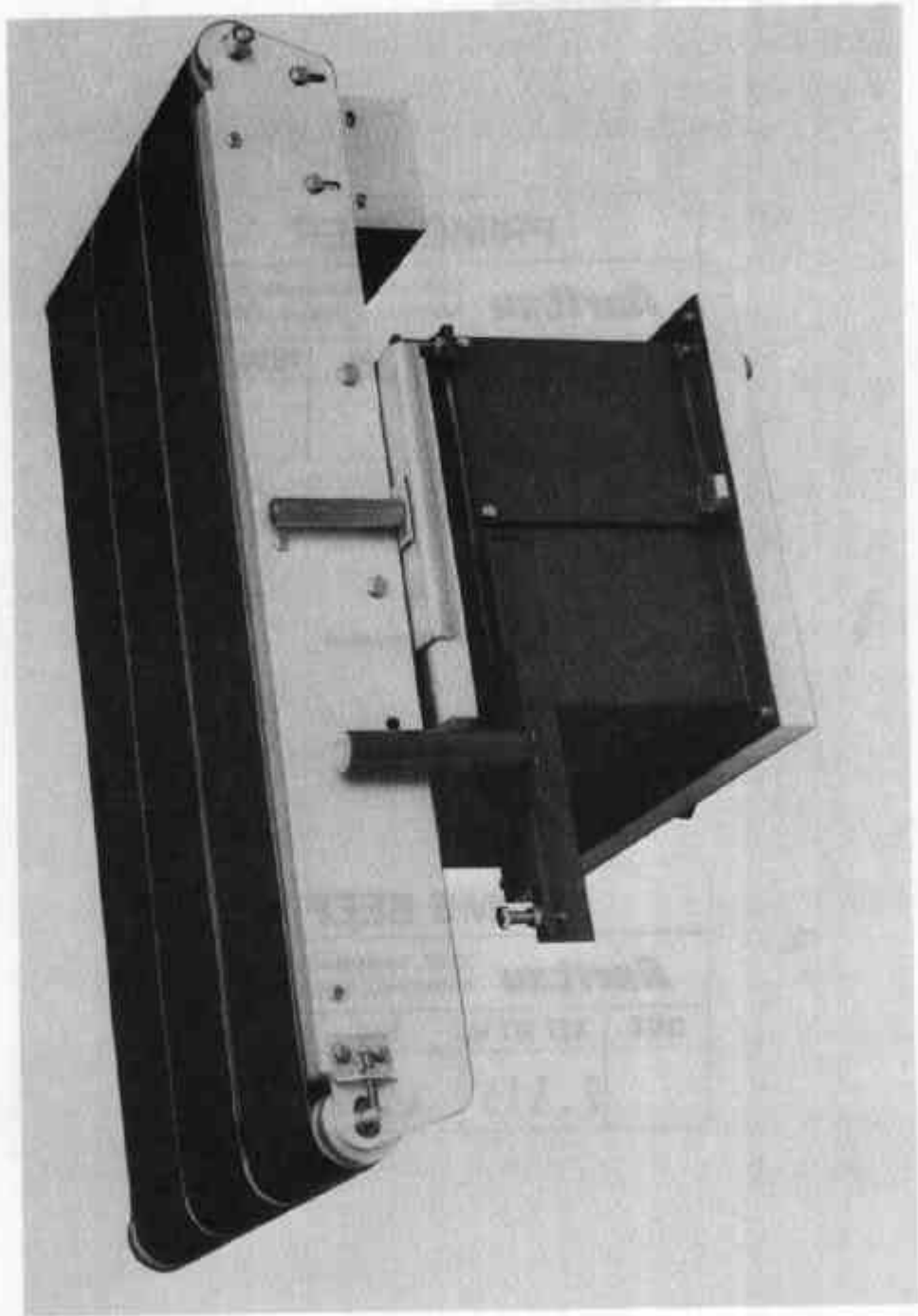
19/11/82

FIGURE 6/40/207 - 2



Reading Face Of Model K560A

FIGURE 6/4D/207 - 3



Weighing Unit Of Model K560A Showing Stamping Plug

19/11/82

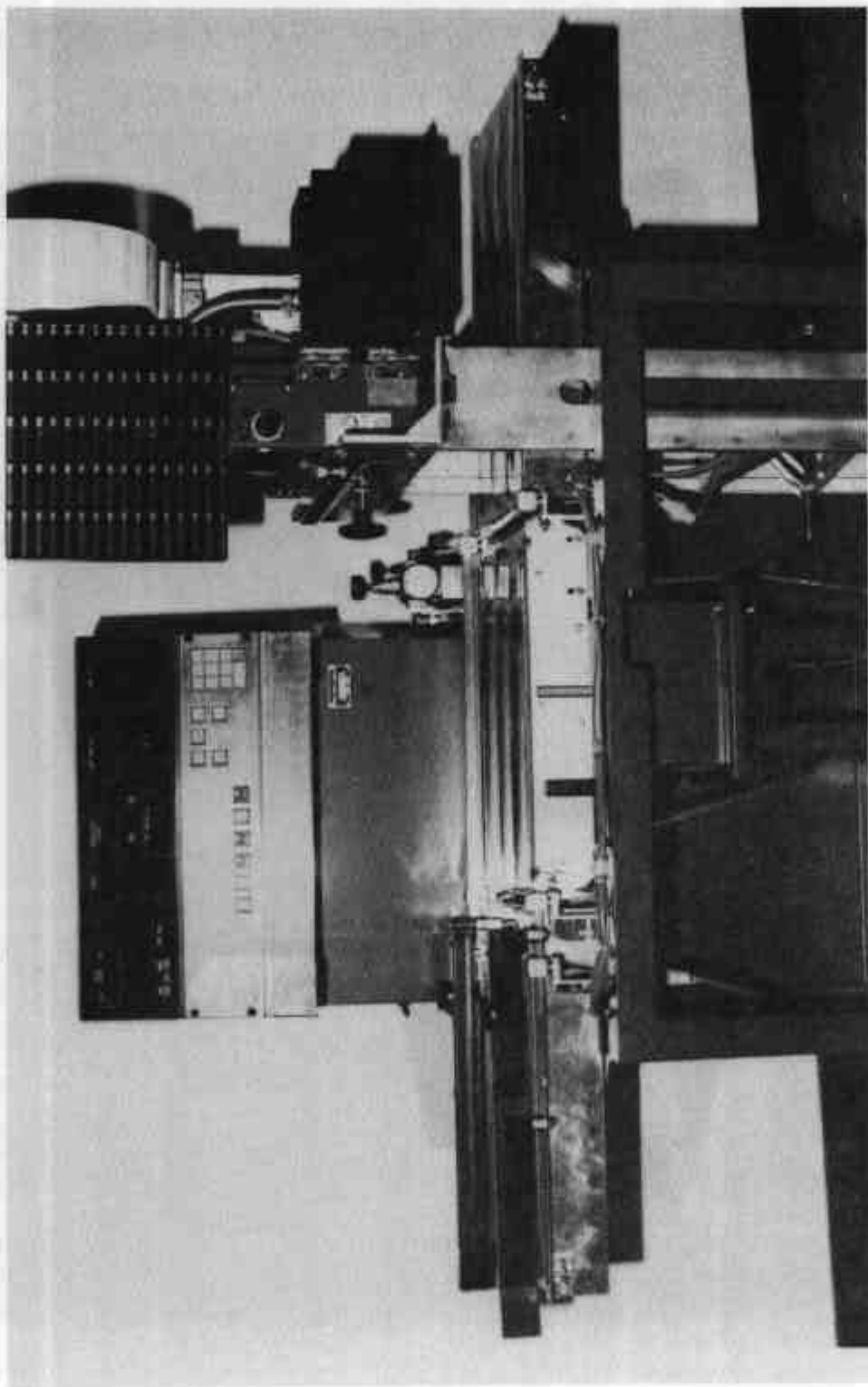
PRIME BEEF			
Anritsu		10-27, Minamiazabu 5-chome Minato-ku, Tokyo, 106 Japan	
DATE	NET WT kg	\$/kg	TOTAL PRICE \$

Label Unprinted

PRIME BEEF			
Anritsu		10-27, Minamiazabu 5-chome Minato-ku, Tokyo, 106 Japan	
DATE	NET WT kg	\$/kg	TOTAL PRICE \$
	2.515	4.56	11.47

Label Printed

FIGURE 6/40/207 - 5

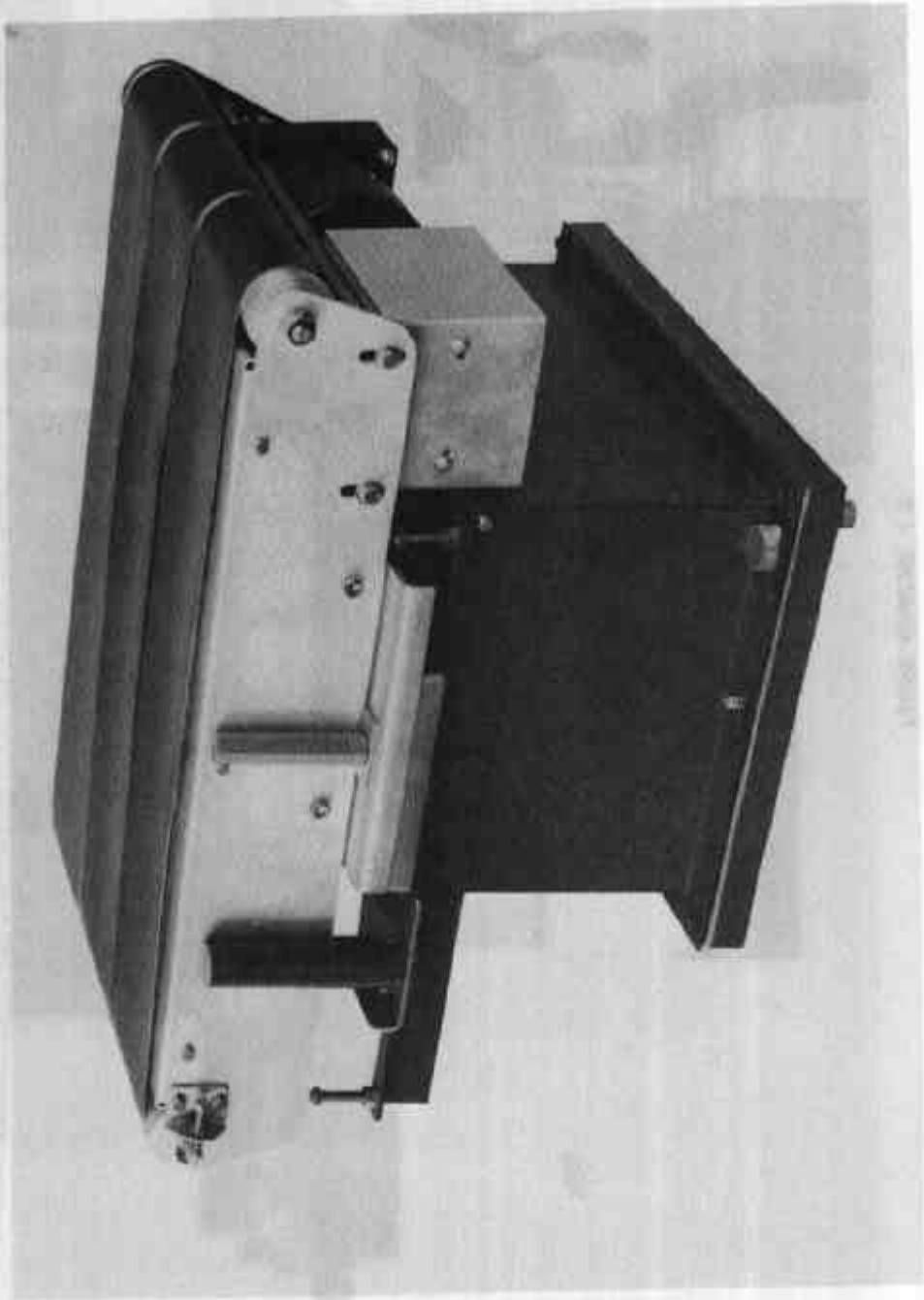


Anritsu Model K384B

19/11/82

30/11/82

FIGURE 6/10/207 - 6

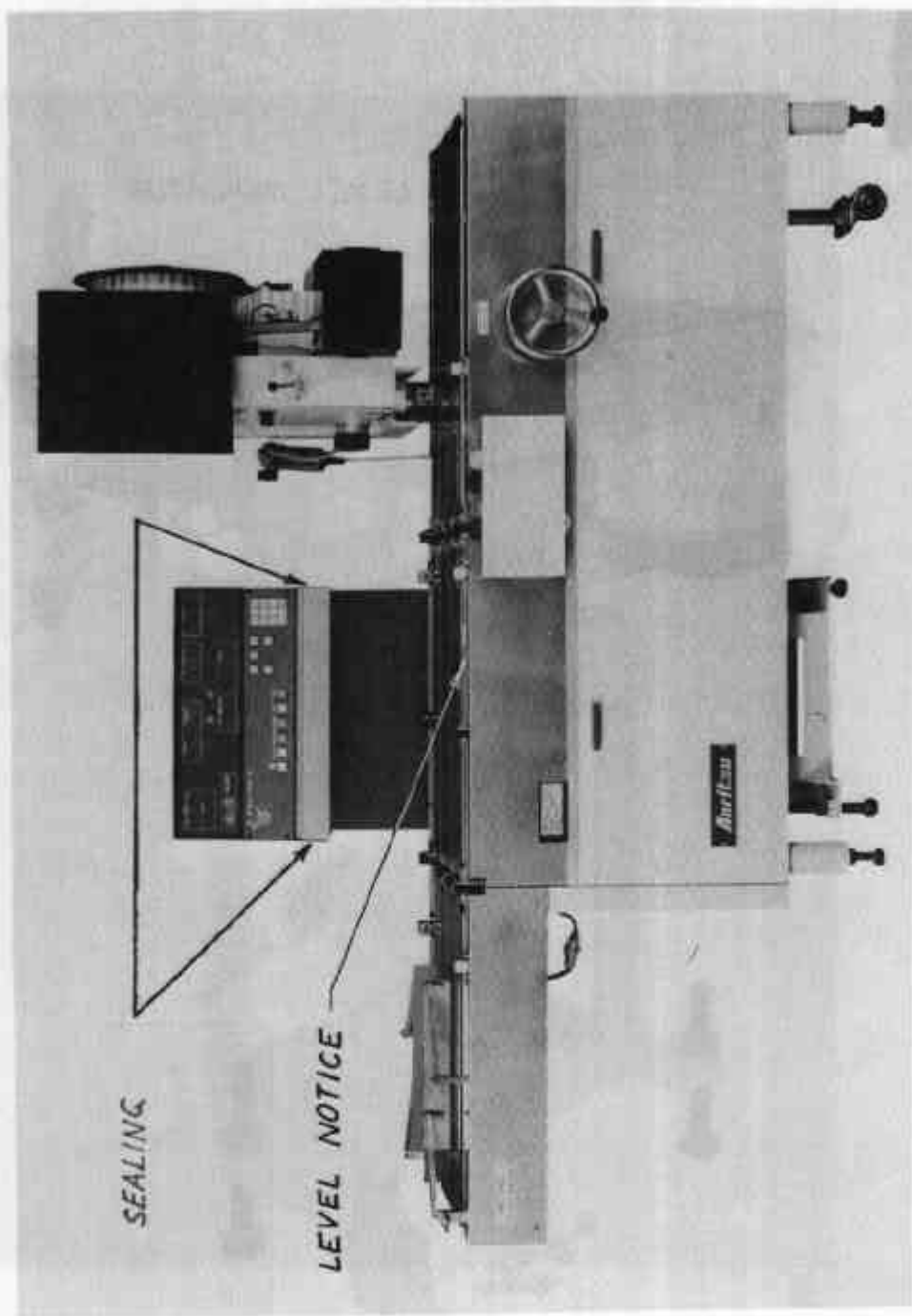


Weighing Unit Of Model K584B Showing Stamping Plug

19/11/82

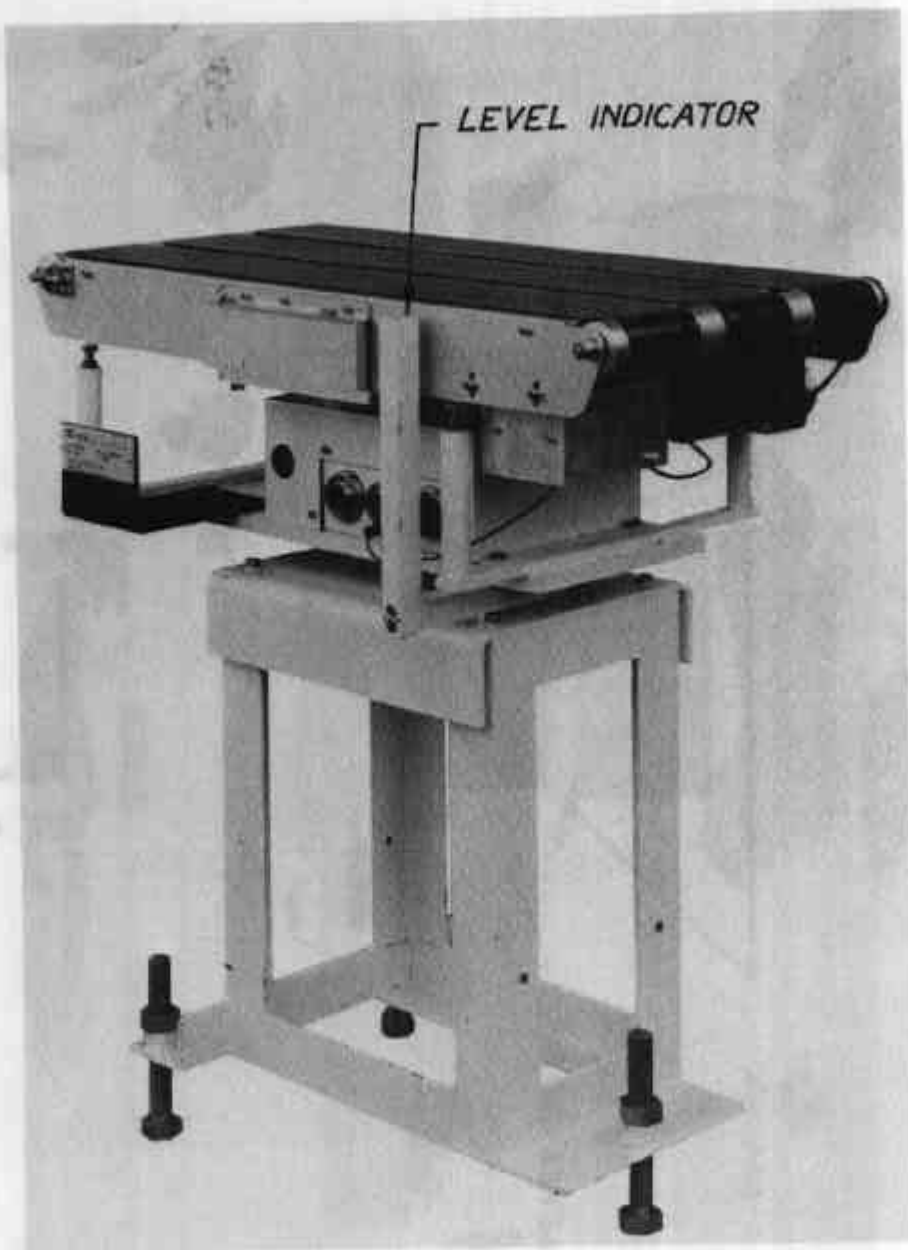
50142101

FIGURE 6/40/207 - 7



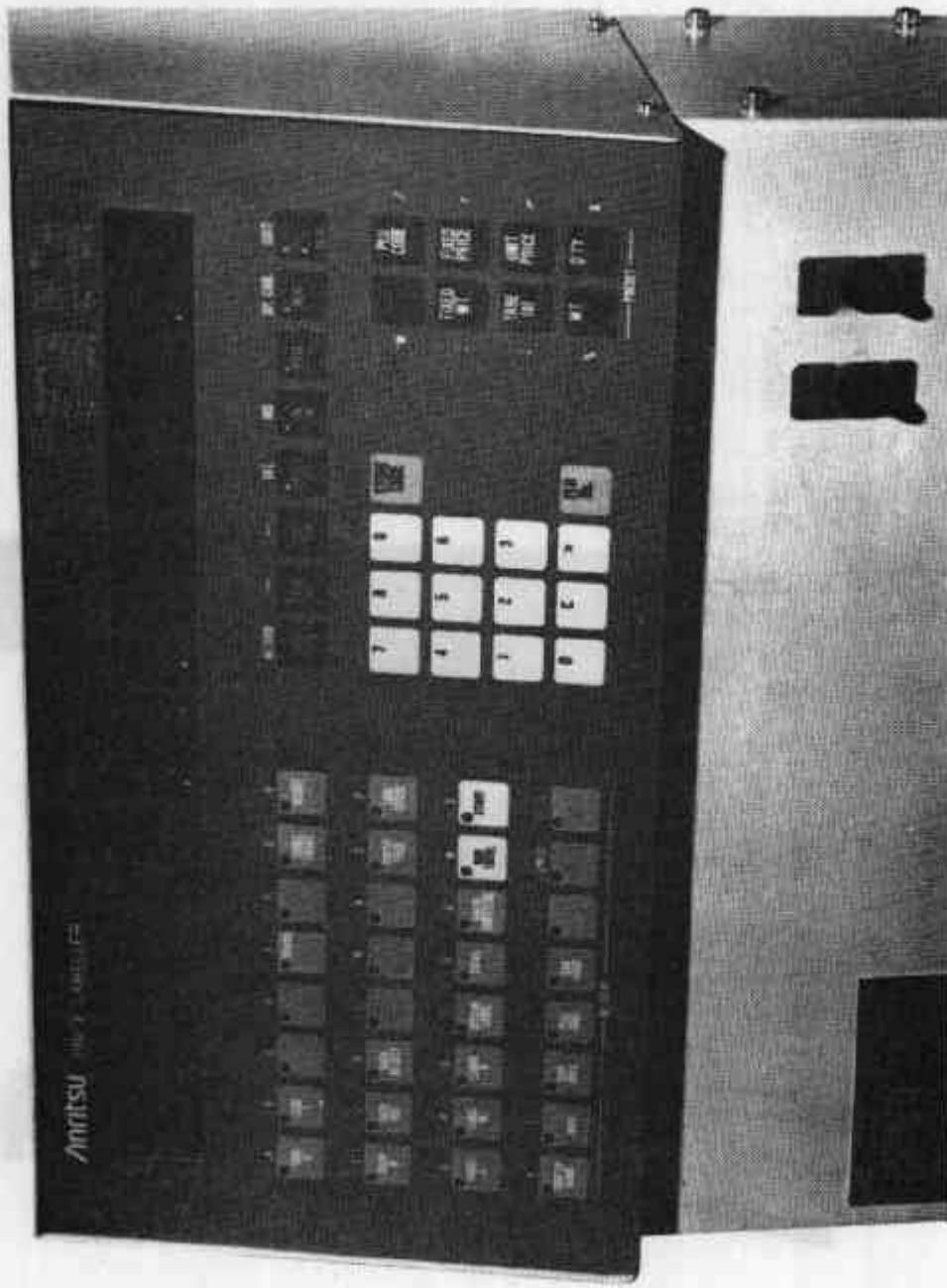
Anritsu Model K560A (Variant 2)

FIGURE 6/40/207 - 8



Weighing Unit Of Model K560A (Variant 2)

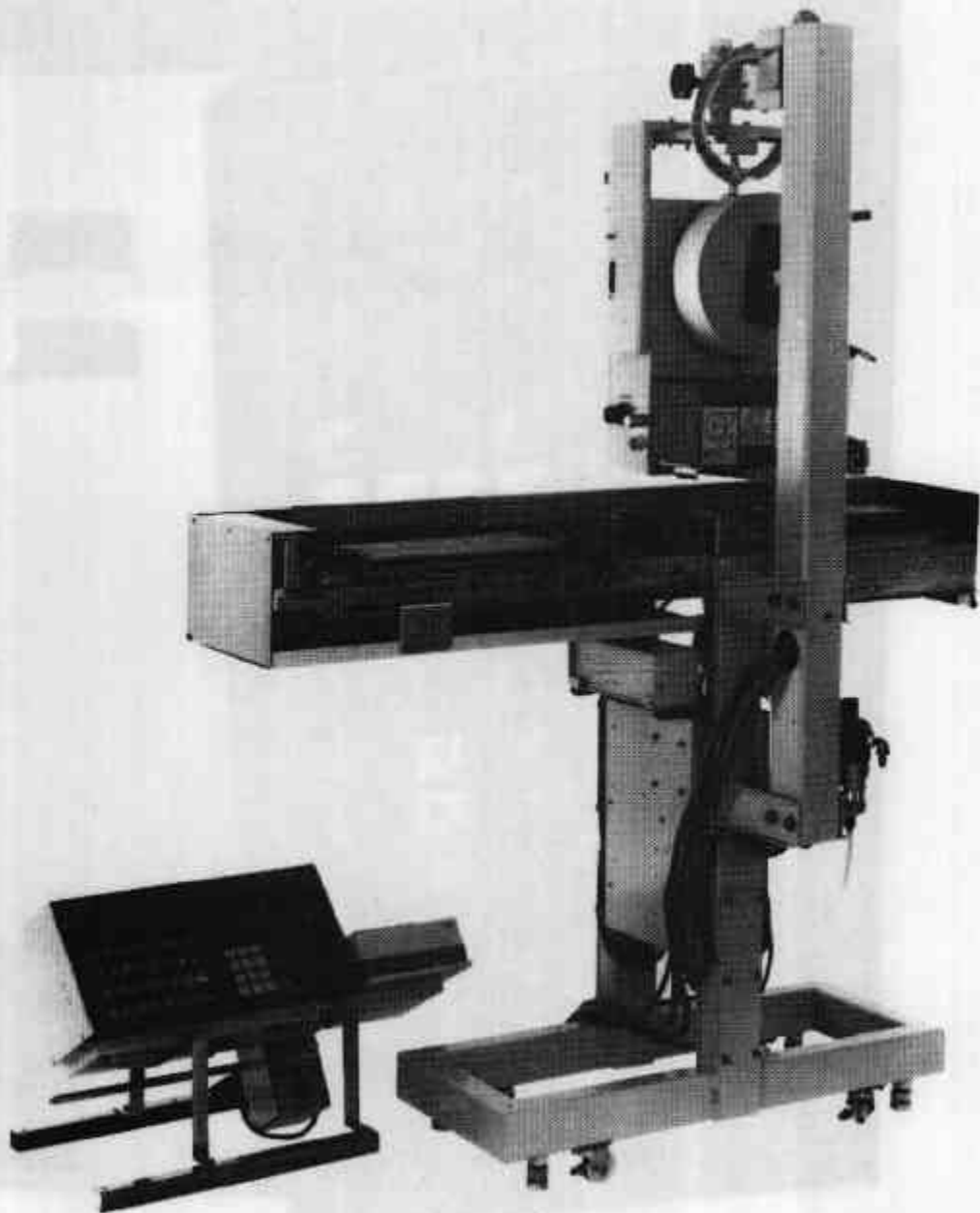
19/11/82



Anritsu K5940 Indicator

6/40/207
17/3/87

FIGURE 6/40/207 - 10



Arritsu Model K587DS