



NATIONAL STANDARDS COMMISSION
WEIGHTS AND MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 6/4D/214

CANCELLED

This is to certify that an approval has been granted by the Commission that the pattern and variants of the

Teraoka Seiko Model DS-210 Price-computing Weighing Instrument

0/1

submitted by J.W. Wedderburn & Sons Pty Ltd
90 Parramatta Road
Summer Hill, NSW, 2130

are suitable for use for trade.

The approval is subject to review on or after 1/10/87.

Instruments purporting to comply with this approval shall be marked NSC No 6/4D/214.

The approval may be withdrawn if instruments are used other than in accordance with the drawings and specifications lodged with the Commission.

Signed

Executive Director

Descriptive Advice

Pattern: approved 23/9/82

- Teraoka Seiko model DS-210 price-computing weighing instrument of 15 kg capacity by 0.005 kg scale intervals, with price-computing in 1 c increments to \$999.99/kg and price to \$9999.99.

Variant: approved 23/9/82

1. With an output socket for peripheral equipment.

Technical Schedule No 6/4D/214 describes the pattern and variant 1.

Variants: approved 15/3/84

2. Of 30 kg capacity by 0.010 kg scale intervals.
3. Displaying mass only.

Technical Schedule No 6/4D/214 Variation No 1 describes variants 2 and 3.

Filing Advice

Certificate of Approval No 6/4D/214 dated 25/10/82 is superseded by this Certificate and may be destroyed. The documentation for this approval now comprises:

- Certificate of Approval No 6/4D/214 dated 10/4/84
- Technical Schedule No 6/4D/214 dated 25/10/82
- Technical Schedule No 6/4D/214 Variation No 1 dated 10/4/84
- Test Procedure No 6/4D/214 (including Table 1) dated 25/10/82
- Figures 1 and 2 dated 25/10/82.



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/214

VARIATION No 1

Pattern: Teraoka Seiko Model DS-210 Price-computing Weighing Instrument.

Submittor: J.W. Wedderburn & Sons Pty Ltd
90 Parramatta Road
Summer Hill, NSW, 2130.

1. Description of Variants

1.1 Variant 2

Of 30 kg capacity by 0.010 kg scale intervals with price computing in 1c increments to \$999.99/kg and price to \$9999.99.

1.2 Variant 3

The pattern or variants displaying mass only.



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/214

Pattern: Teraoka Seiko Model DS-210 Price-computing Weighing Instrument.

Submitter: J.W. Wedderburn & Son Pty Ltd,
90 Parramatta Road,
Summer Hill, NSW, 2130.

1. Description of Pattern

The pattern is a self-indicating price-computing weighing instrument (Figures 1 and 2).

Maximum Capacity	15 kg
Scale Interval	0.005 kg
Unit Price	\$999.99/kg in 1c increments
Price	\$9999.99 in 1c increments.

1.1 Zero

Zero is automatically corrected to within 0.25e, indicated by the ZERO light illuminating, whenever the instrument comes to rest within 0.5e of zero. If the instrument comes to rest outside that range but within the zero reset range, zero may be reset by pressing the button marked Z.

1.2 Display Check

When power is applied to the instrument via the ON/OFF switch, all segments show 0's, all 1's to all 9's and then flash all 8's until the button marked Z is pressed, whereupon the instrument rezeroes.

1.3 Levelling

Four adjustable feet are provided and a notice adjacent to the level indicator aperture advises that the instrument must be level when in use.

1.4 Marking

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

Manufacturer's name or mark	
Serial number	
NSC approval number	NSC No 6/4D/214
Accuracy class	III
Maximum capacity	Max 15 kg*
Minimum capacity	Min 0.1 kg*
Verification scale interval	e = d = 0.005 kg*

1.5 Sealing

- (a) The calibration adjustments are covered internally by a plate which is sealed by a paper seal. Access may be gained to the paper seal for Weights and Measures purposes via an access cover on the side of the instrument.
- (b) A stamping plug is provided.

2. Description of Variant 1

The instrument fitted with an output socket for the connection of peripheral equipment

*These markings are repeated in the vicinity of each reading face if not already there.

TEST PROCEDURE No 6/4D/214

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:

- $\pm 0.5e$ for loads between 0 and 500e;
- $\pm 1e$ for loads between 501e and 2000e; and
- $\pm 1.5e$ for loads above 2000e.

1. Zero Range

The maximum range of the zero setting device should not exceed 4% of the maximum capacity ($\pm 2\%$ 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; it should not be possible to obtain zero by means of the zero adjustment.
- (b) Reduce the load to, say, 1.5%; it should then be possible to obtain zero by means of the zero adjustment.

2. Zero Test

- (a) Check by means of Document 104 that when the ZERO light illuminates, zero is set within 0.25e.
- (b) 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 then be 10e and 11e respectively.

3. Range of Indication

- (a) The maximum mass indicated should not exceed the maximum capacity (Max) by more than 10 scale intervals; above this indicated mass the indication should be blank.
- (b) The minimum mass indicated should be zero; below this the indication should be blank.

4. Load Test

Test loads are to be applied to the weighing instrument increasing in not less than 5 approximately equal steps to maximum capacity, followed by decreasing loads in not less than 5 approximately equal steps to zero load.

5. Price-Computing Accuracy

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

Note: This test does not establish correct mass indication; a separate load test in accordance with Document 104 is necessary. This may be carried out in conjunction with the above test.

Table 1

<u>Indicated Mass</u>	<u>Unit Price</u>	<u>Price</u>
kg	\$/kg	\$
0.100	99.99	10.00
0.190	898.82	170.78
15.000	666.66	9999.90
11.000	99.99	1099.89
10.000	999.99	9999.90
11.965	835.77	9999.99

Price-computing Table - 15 kg Instrument With 0.005 kg Scale Intervals
And With Unit Price To \$999.99/kg And Total Price To \$9999.99



NATIONAL STANDARDS COMMISSION

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 6/4D/214

CHANGE No 1

The following change is made to the description of the Teraoka Seiko Model DS-210 Price-computing Weighing Instrument:

In Technical Schedule No 6/4D/214 dated 25/10/82, paragraph 1.2 Display Check,

Delete "via the ON/OFF switch" from the first line.

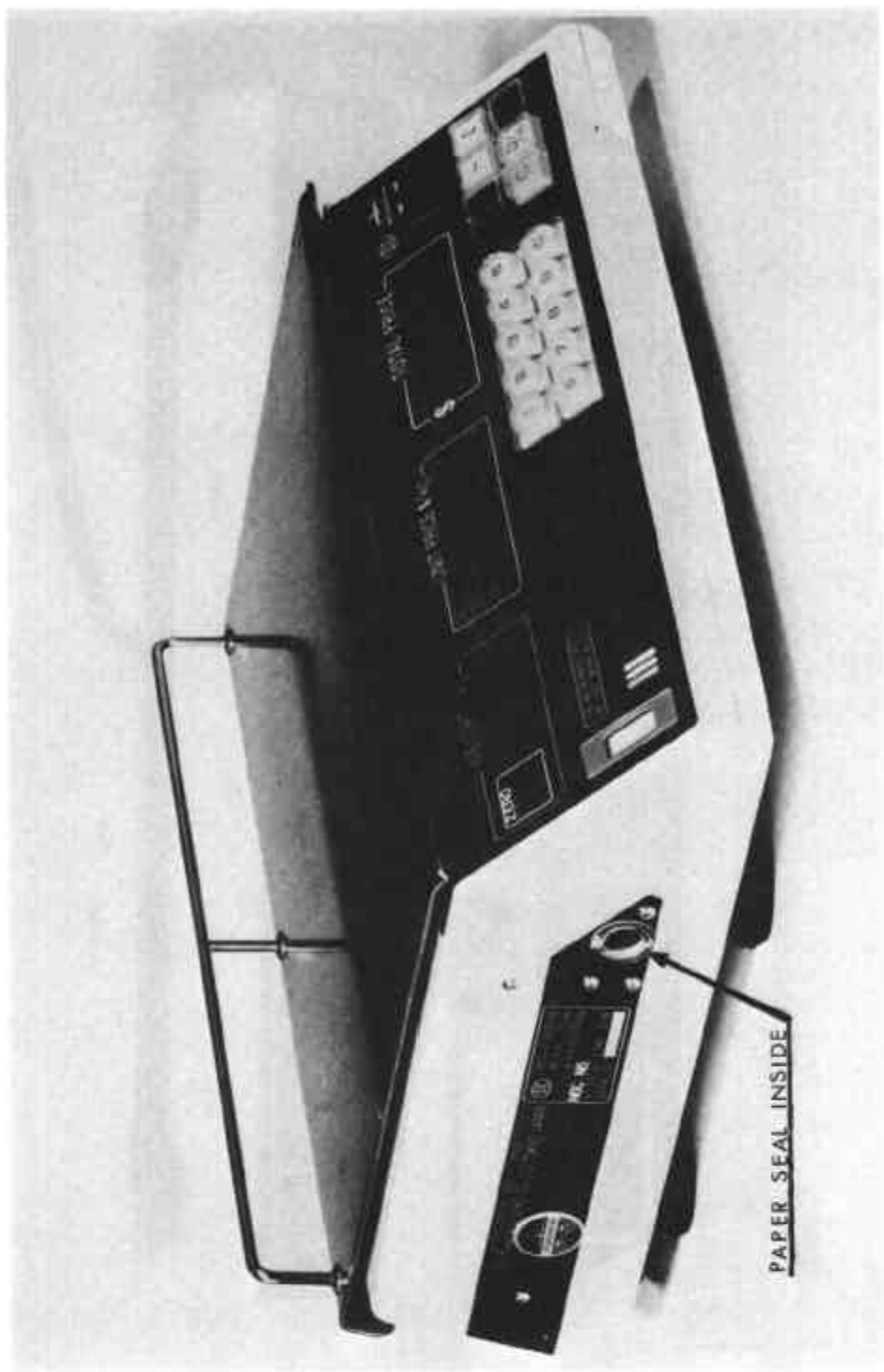
Signed

Executive Director

This change gives a more accurate description of the display check function of the instrument.

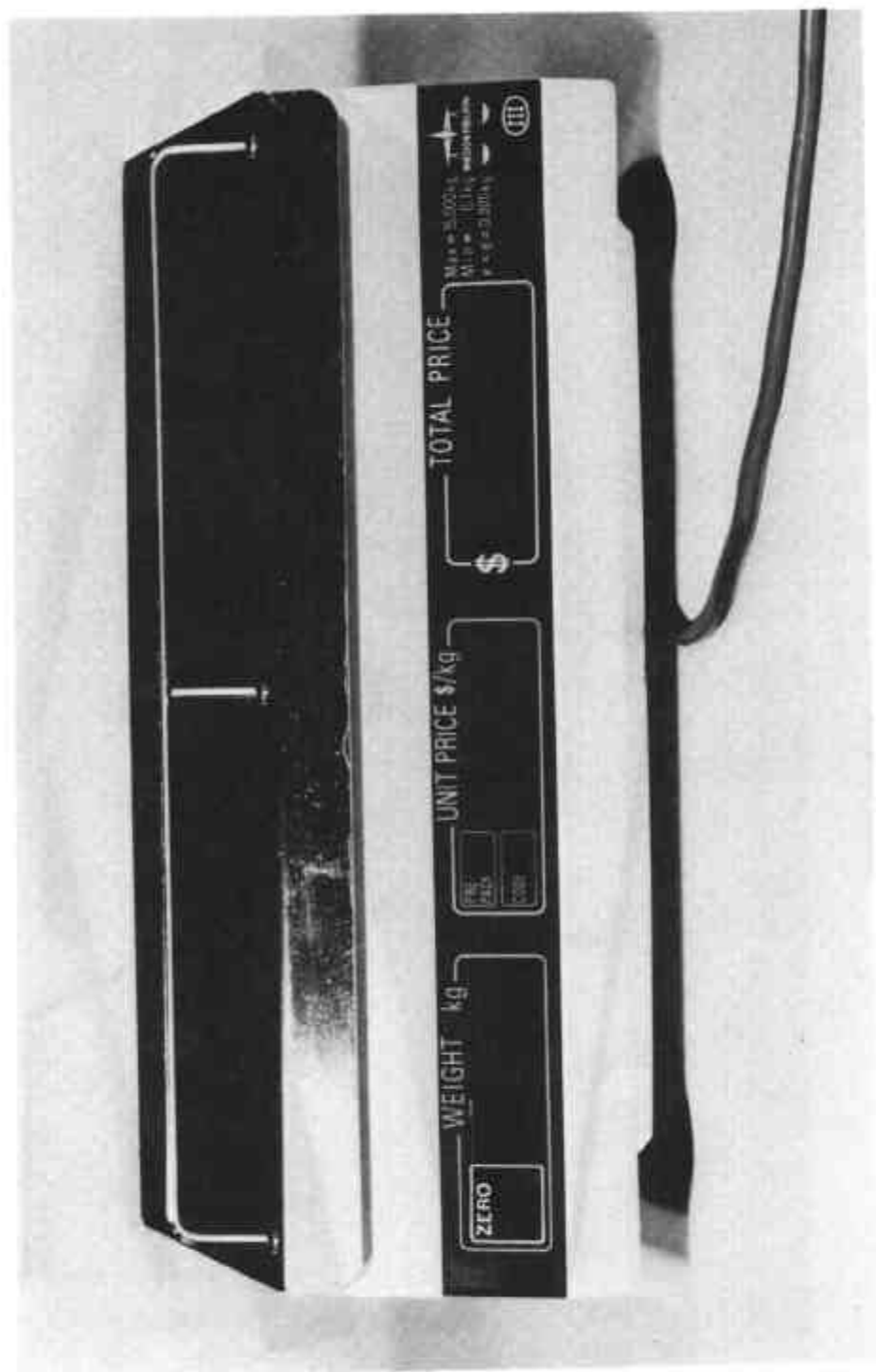
15/7/83

FIGURE 6/40/214 - 1



Teroko Seiko Model DS-210 Including Sealing

FIGURE 6/40/214 - 2



Model DS-210 - Purchasers' Side