



CANCELLED

NATIONAL STANDARDS COMMISSION

CERTIFICATE OF APPROVAL No 6/4D/83

This is to certify that the pattern and variants of the
Teraoka Weighing Instrument Model Digi DS 606

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

have been approved under the Weights and Measures (Patterns of
Instruments) Regulations as being suitable for use for trade.

Pattern: approved 4/9/79

- Capacity 6,002 kg by 2 g scale intervals, with price computing in 1c increments to \$99,99/kg and price in 1c increments to \$600,14.

Variants: approved 4/9/79

- Without unit price look-up keyboard.
- Without display-hold switch.
- Without unit-price look-up keyboard and display-hold switch.
- With capacity 15,005 kg by 5 g scale intervals, with price computing in 1c increments to \$99,99/kg and total price to \$999,99 (model DS 615).
- With purchaser's indicator in a separate housing.

Variation No 1: approved 7/5/80

- With taring device and tare value indicator.
- With data-output socket.
- With taring device and data-output socket, and with printer model DP 9100, as a prepackaging instrument.

25/8/80

.... /2

9. With or without taring device, with data-output socket and with printer model DP 9100, as a retail-counter instrument.

Variation No 2: approved 7/8/80 and 11/8/80

10. With capacity 30,01 kg by 10 g scale intervals, with price computing in 1c increments to \$99,99/kg and total price in 1c increments to \$999,99, and in any of the above variant forms.
11. Without keyboards, price computation and price display.
12. With remote keyboard.

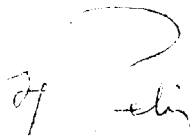
The pattern and variants are described in Technical Schedule No 6/4D/83 and Variations Nos 1 and 2 dated 18/9/79, 7/5/80 and 25/8/80, and in drawings and specifications lodged with the Commission.

The approval is subject to review on or after 31/8/84.

All instruments conforming to this approval shall be marked with the approval number "NSC No 6/4D/83".

This Certificate replaces that issued on 7/5/80, which may be destroyed.

Signed



Executive Director



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/83

Pattern: Teraoka Weighing Instrument Model Digi DS 606 and Variants

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

Date of Approval: 4/9/79

Description of Pattern:

The pattern (Figures 1 and 2) is a self-indicating price-computing weighing instrument of capacity 6,002 kg by 2 g scale intervals, with price computing in 1 c increments to \$99,99/kg and indicating total price to \$600,14.

The unit price is entered either within a period of 3 seconds by means of the ten-button keyboard, or by recall from an internal memory using the 21-button price-look-up keyboard.

The unit price is cleared by pressing button C, or may be cleared automatically, or held, depending upon the position of a three-position switch at the side of the instrument (Figure 3). This switch has the following functions:

1. In position M indications of mass, unit price and price return to zero when the load is removed.
2. In position H the indications of mass, unit price and price are retained for approximately 10 seconds before returning to zero.
3. In position A the indication of unit price is retained when the load is removed; mass and price return to zero.

The load receptor is supported by a frame which is attached to the load cell (Figure 4).

The output voltage from the load cell, which is proportional to the load applied, is digitally encoded to continuously indicate mass, and is multiplied by the unit price to continuously indicate total price.

The instrument will rezero automatically whenever it comes to rest within 0,5e of zero; this is indicated by a zero light being illuminated when zero is set within 0,25e. A push-button marked ZERO is provided for rezeroing the instrument when zero has changed by more than one increment.

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

When power is applied to the instrument, an automatic circuit causes all the indicators to indicate, in sequence, the numbers from 0 to 9, and then go to flashing zero. When the zero contactor is pressed they will reset to zero.

The stamping plug on the purchaser's side of the instrument prevents the cover of the instrument being removed and secures a plate over an access to the calibration adjustments (Figure 2). A lead-plug seal is also provided for sealing the indicator covers (Figure 3).

The nameplate is marked with the following data:

Manufacturer's name	
Serial number of instrument	
NSC approval number in the form:	NSC No 6/4D/83
Accuracy class in the form:	III
Maximum capacity in the form:	Max 6,002 kg *
Minimum capacity in the form:	Min 0,1 kg *
Verification scale interval in the form:	$d_d = e = 2 \text{ g} *$

* These markings are repeated on each mass indicator.

Variants:

1. The instrument without the unit-price look-up keyboard.
2. The instrument without the three-position display-hold switch.
3. The instrument with neither unit-price look-up keyboard nor three-position display-hold switch.
4. An instrument of capacity 15,005 kg by 5 g scale intervals with price computing in 1 c increments from 1 c to \$99,99/kg and a total price of \$999,99, and known as Model DS 615, in which case the capacity and scale interval markings are:

Max 15,005 kg
 Min 0,1 kg
 $d_d = e = 5 \text{ g}$

5. The purchaser's indicator of mass, unit price, price and zero balance in a separate housing remote from the weighing unit (Figure 5). The interconnecting cable is internally connected within the weighing unit and within the purchaser's indicator unit. A lead-plug seal prevents the cover of the purchaser's indicator from being removed.

The remote display is marked adjacent to the mass reading face as described above, and with a notice advising that the remote display should be located so that it is directly associated with the weighing unit.

Note: Inspectors should ensure that the instrument is installed so that there is a self-evident association between the remote indicator and the weighing unit.

Test Procedure:

Accuracy Requirements

The maximum permissible errors are:

- ± 0,5e for loads between 0 and 500e;
- ± 1e for loads between 501 and 2000e; and
- ± 1,5e for loads above 2000e.

As the instrument is fitted with zero-drift tracking, the application of cumulative loads should not exceed 5 minutes' duration. Periodic removal of the load will allow the instrument to rezero and thus more closely simulate actual usage.

1. Zero test -- As the automatic device resets zero when the weighing mechanism is in equilibrium within 0,5 scale interval of zero, zero should be checked as described in the Commission's Test Procedure for the Elimination of Rounding Error for Weighing Instruments with Digital Indication (Document 104), with a load equal to, say, 10 scale intervals 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.
2. Zero range — The maximum range of operation of the tool-operated zero device should not exceed 4% of the capacity of the instrument (± 2% approximately). Satisfactory setting may be checked by the following method:
 - (a) with zero balance indicated, apply a load of 0,144 kg* to the instrument and press the zero contactor; the instrument should not rezero; and

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- (b) reduce the load to 0,096 kg* and again press the zero contactor; the instrument should indicate zero balance.
3. Level sensitivity — when the instrument is tilted so that the bubble in the level indicator moves 2 mm, zero should not change and, when tested in the tilted position, the instrument should satisfy the weighing-accuracy requirements given above.
4. Price-computing accuracy — the indications of mass, unit price and total price as listed in Table 1 for the 6,002 kg instrument and Table 2 for the 15,005 kg instrument will indicate that the price-computing and mass circuits are functioning correctly. The exact figures should be indicated as rounding is effected within the computer.

Note: This test does not establish correct mass indications; a separate test, which may be carried out in conjunction with this test and in accordance with the Commission's recommended testing procedure for the elimination of rounding errors — Document 104 — is necessary.

5. Range of indication —
- (a) The maximum mass indicated should not exceed the maximum capacity (Max); above this indicated mass the indicator should be blank.
- (b) The minimum mass indicated should be zero; below this indicated mass the indicator should be blank.

* For the 15 kg variant these values are 0,36 kg and 0,24 kg respectively.

TABLE 1

Indicated mass	Unit price	Total price
kg	\$/kg	\$
0,000	00,00	0,00
0,040	99,99	4,00
0,052	99,81	5,19
0,064	99,76	6,38
0,076	99,67	7,57
0,088	99,59	8,76
0,090	99,49	8,95
0,110	99,39	10,93
0,220	91,29	20,08
0,330	92,19	30,42
0,400	93,99	37,60
0,500	94,80	47,40
0,600	95,92	57,55
0,700	96,93	67,85
0,800	97,94	78,35
0,900	98,90	89,01
1,000	11,24	11,24
1,500	29,00	43,50
2,000	39,98	79,96
2,500	49,00	122,50
3,000	59,99	179,97
3,500	69,90	244,65
4,000	79,95	319,80
4,500	89,90	404,55
5,000	99,95	499,75
6,000	99,99	599,94
6,002	99,99	600,14

Test Procedure — 6,002 kg Instrument with
 Unit Price to \$99,99 and Total Price to \$600,14

TABLE 2

Indicated mass	Unit Price	Total price
kg	\$/kg	\$
0,000	0,00	0,00
0,100	99,99	10,00
0,105	98,98	10,39
0,110	97,97	10,78
0,120	96,95	11,63
0,130	95,95	12,47
0,140	94,94	13,29
0,150	83,84	12,58
0,160	72,73	11,64
0,170	61,61	10,47
0,180	50,51	9,09
0,190	49,49	9,40
0,200	39,39	7,88
0,300	29,29	8,79
0,400	19,29	7,72
0,500	9,00	4,50
0,600	55,16	33,10
0,700	39,02	27,31
0,800	58,99	47,19
0,900	70,99	63,89
1,000	75,99	75,99
2,000	80,99	161,98
3,000	85,39	256,17
4,000	96,99	387,96
5,000	97,99	489,95
6,000	98,99	593,94
7,000	99,99	699,93
8,000	99,99	799,92
9,000	99,99	899,91
10,000	99,99	999,90
11,000	50,00	550,00
12,000	50,00	600,00
13,000	50,00	650,00
14,000	50,00	700,00
15,000	50,00	750,00

Test Procedure — 15,005 kg Instrument with
 Unit Price to \$99,99/kg and Total Price to \$999,99

TABLE 3

<u>Indicated Mass</u> kg	<u>Unit Price</u> \$	<u>Price</u> \$
0,00	0,00	0,00
0,10	99,99	10,00
0,10	98,98	9,90
0,11	97,97	10,78
0,12	96,95	11,63
0,13	95,95	12,47
0,14	94,94	13,29
0,15	83,84	12,58
0,16	72,73	11,64
0,17	61,61	10,47
0,18	50,51	9,09
0,19	49,49	9,40
0,20	39,39	7,88
0,30	29,29	8,79
0,40	19,29	7,72
0,50	9,00	4,50
0,60	55,16	33,10
0,70	39,02	27,31
0,80	58,99	47,19
0,90	70,99	63,89
1,00	75,99	75,99
2,00	80,99	161,98
3,00	85,39	256,17
4,00	96,99	387,96
5,00	97,99	489,95
6,00	98,99	593,94
7,00	99,99	699,93
8,00	99,99	799,92
9,00	99,99	899,91
10,00	99,99	999,90
11,00	50,00	550,00
12,00	50,00	600,00
13,00	50,00	650,00
14,00	50,00	700,00
15,00	50,00	750,00
20,00	5,00	100,00
25,00	5,00	125,00
30,00	5,00	150,00

Test procedure 30,00 kg by 0,01 kg instrument with unit price to \$999,99/kg and price \$999,90.



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/83

VARIATION No 1

Pattern: Teraoka Weighing Instrument Model Digi DS 606

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

Description of Variant:

6. The instrument of 6,002 kg capacity or 15,005 kg capacity with a semi-automatic subtractive taring device of maximum effect 0,998 kg or 0,995 kg (Figure 6). A container placed on the load receptor is tared to within 0,25e when the tare button T is pressed. The value of the tare in grams is indicated to the nearest scale interval on tare-mass indicators on both sides of the instrument, and zero \pm 0,25e is indicated on the main mass indicators. When the container is removed the mass indicators go blank; the tare-mass indicators continue to display the tare value.

When the filled container is placed on the load receptor, the main mass indicators indicate a net mass. The tare value remains throughout the weighing.

A 3-position switch on the side of the instrument selects one of three modes in which the instrument can operate:

1. In position M, the indications of mass, tare mass, unit price and price all return to zero when the load is removed.
2. In position H, all indications are held for approximately 7 seconds when the load is removed.
3. In position A, the indications of unit price and tare mass are held when the load is removed; mass and price return to zero.

The instrument is approved for retail-counter use.

The nameplate is marked with the following data:

Manufacturer's name	
Serial number of instrument	
NSC approval number in the form:	NSC No 6/4D/83
Accuracy class in the form:	III
Maximum capacity in the form:	Max*
Minimum capacity in the form:	Min*
Verification scale interval in the form:	$d_a = e = \dots*$
Maximum subtractive tare in the form:	$T = - \dots*$

* These markings are repeated on each reading face.

7. The instrument of 6,002 kg capacity or 15,005 kg capacity fitted with a data-output socket. When this socket is not in use it is covered by a plate fixed internally.
8. The weighing instrument model DS 606 or DS 615, with taring device and data-output socket and with label printer model DP 9100, as a prepackaging instrument (Figure 7). The data cable providing mass, unit price and price information to the printer is internally connected within the printer, the serial number of which is sealed to the weighing unit by the stamping plug shown in Figure 2.

A cover within the printer, sealed by a lead-and-wire seal, prevents access to the printer-circuit boards and data-cable connections. A sample label is illustrated in Figure 8.

The instrument is marked NOT FOR RETAIL COUNTER USE.

9. As a retail counter instrument comprising a weighing instrument model DS 606 or model DS 615, with or without taring device, with data-output socket, and with a ticket printer model DP 9100.

The tickets may be hand-held or adhesive and may be printed with mass, unit price and price as illustrated in Figure 8, or with price only, in which case the ticket may have the word "dollars" printed above or below the price, or the symbol "\$" printed before the price. The word "dollars" or the symbol "\$" may either be preprinted on the ticket or printed by the printer.

Test Procedure:

As described in Technical Schedule No 6/4D/83, with the addition of the price-computing accuracy test applied to the ticket printer, and the tare test described below.

1. Taring - at any load within the capacity of the tare mechanism, the tare mechanism in conjunction with the automatic zero device should be able to reset the weight indicator to zero within 0,25e. This may be checked as described for "zero test".



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/4D/83

VARIATION No 2

Pattern: Teraoka Weighing Instrument Model Digi DS 606

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

1. Description of Variant

10. The weighing instrument with capacity 30,01 kg by 10 g scale intervals, with price computing in 1c increments to \$99,99/kg and price in 1c increments to \$999,99.

The instrument may be in any of the forms described as Variants 1 to 3 and 5 to 9.

11. The instrument without keyboards, price computation and price display (Figure 9).
12. The instrument of 6, 15 or 30 kg capacity with the keyboard in a separate housing (Figure 10); the interconnecting cable is internally connected within the instrument.

2. Test Procedure

As described in Technical Schedule No 6/4D/83.

Test 4 is carried out using Table 3.



NATIONAL STANDARDS COMMISSION

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 6/4D/83

CHANGE No 1

The description of the

Teraoka Weighing Instrument Model Digi DS-606

given in Technical Schedule No 6/4D/83 issued on 18/9/79 is altered as follows:

1. Figures 2 and 3 are replaced by the attached figures.
2. The fourth paragraph of page 2 is replaced by the following paragraph:

"A metal plate over the calibration adjustment hole is retained by two screws through the heads of which a sealing wire is passed and terminated beneath the lead in the stamping plug. The indicator cover is sealed by a sealing wire passed through the head of two of its retaining screws and terminated in a lead seal (Figure 2). "

3. On page 2, third line from bottom: 15,002 kg is changed to 15,005 kg.
4. In Table 1, second-to-last line: 599,95 is changed to 599,94.

8/11/79



NATIONAL STANDARDS COMMISSION

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 6/4D/83

CHANGE No 2

The description of the

Teraoka Weighing Instrument Model DS 606

given in Technical Schedule No 6/4D/83, Variation No 2 is

altered by:

adding to paragraph 10 (i. e. to the description of

Variant 10) "and known as Model DS 6030".

Signed

Executive Director

17/12/80

FIGURE 6/4D/83 - 1



Teraoka Digi DS 606

18/9/79



DS 606 — Purchaser's Side and Showing Sealing

18/9/79

(Replaced 8/11/79)

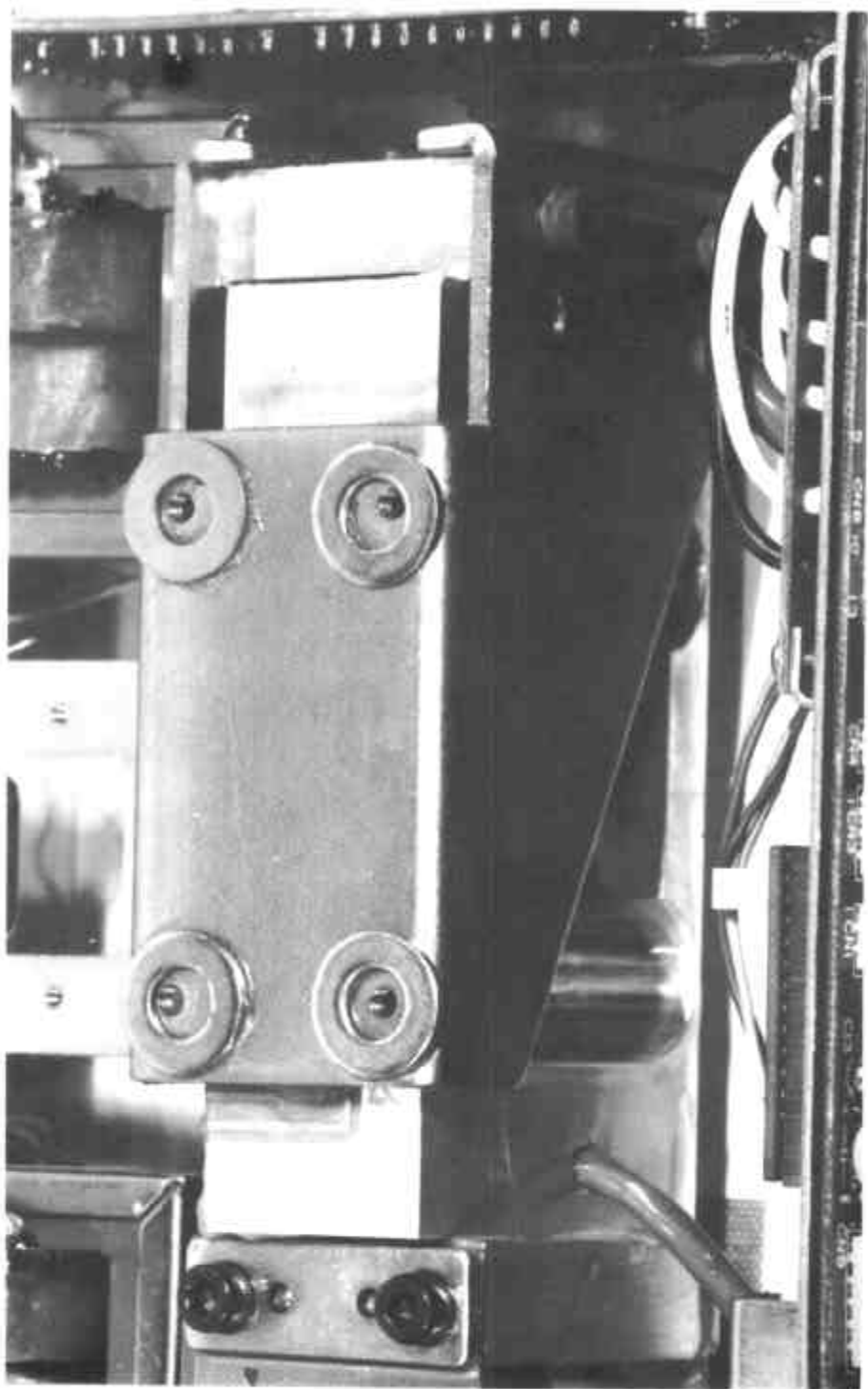
FIGURE 6/4D/83 - 3



DS 606 showing 3-position Switch

18/9/79
(Replaced 8/11/79)

FIGURE 6/4D/83 - 4



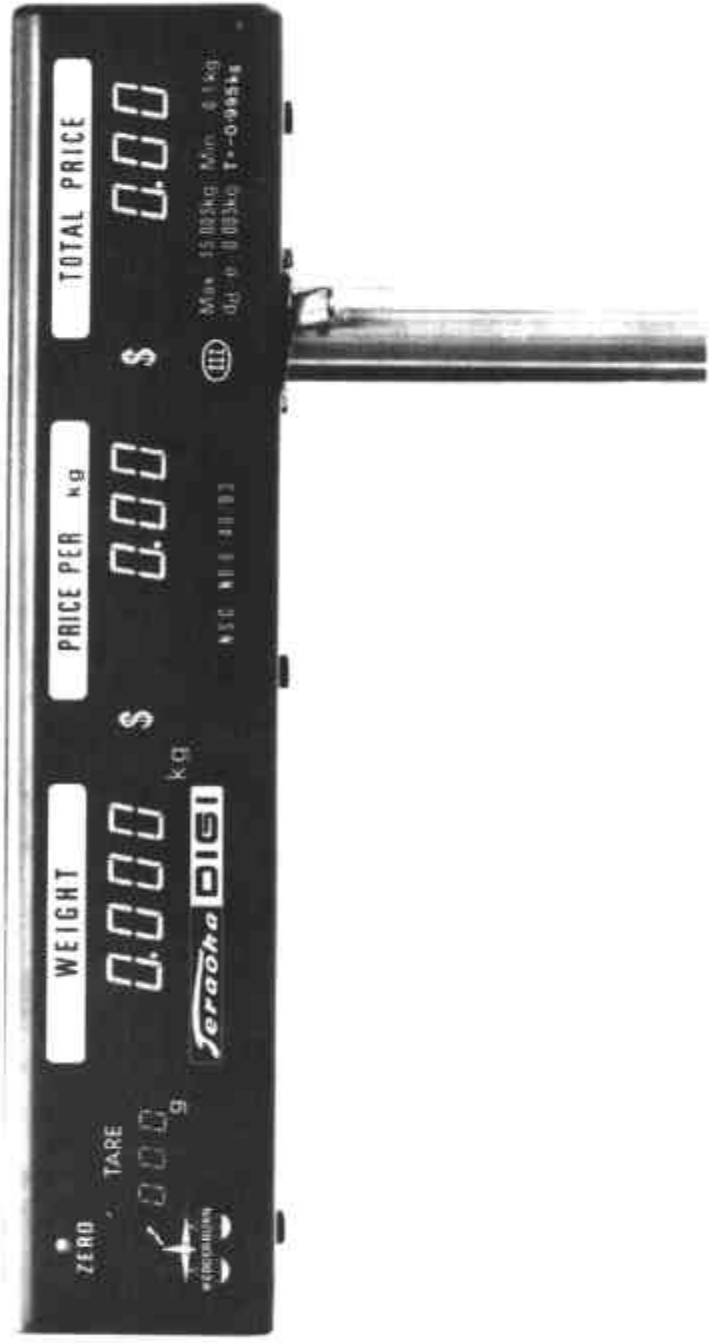
Load-receptor Support Frame

FIGURE 6/4D/83 - 5



DS 606 with Remote Indicator

Figure 6/4D/83 - 6



Indicator, Model DS 615 with Tare

Figure 6/4D/83 - 7



DP-9100 Label Printer

7/5/80

Figure 6/4D/83 - 8

PRICE/kg \$	NET-kg	TOTAL PRICE \$
DATE	PACKED	

(a) Before Printing

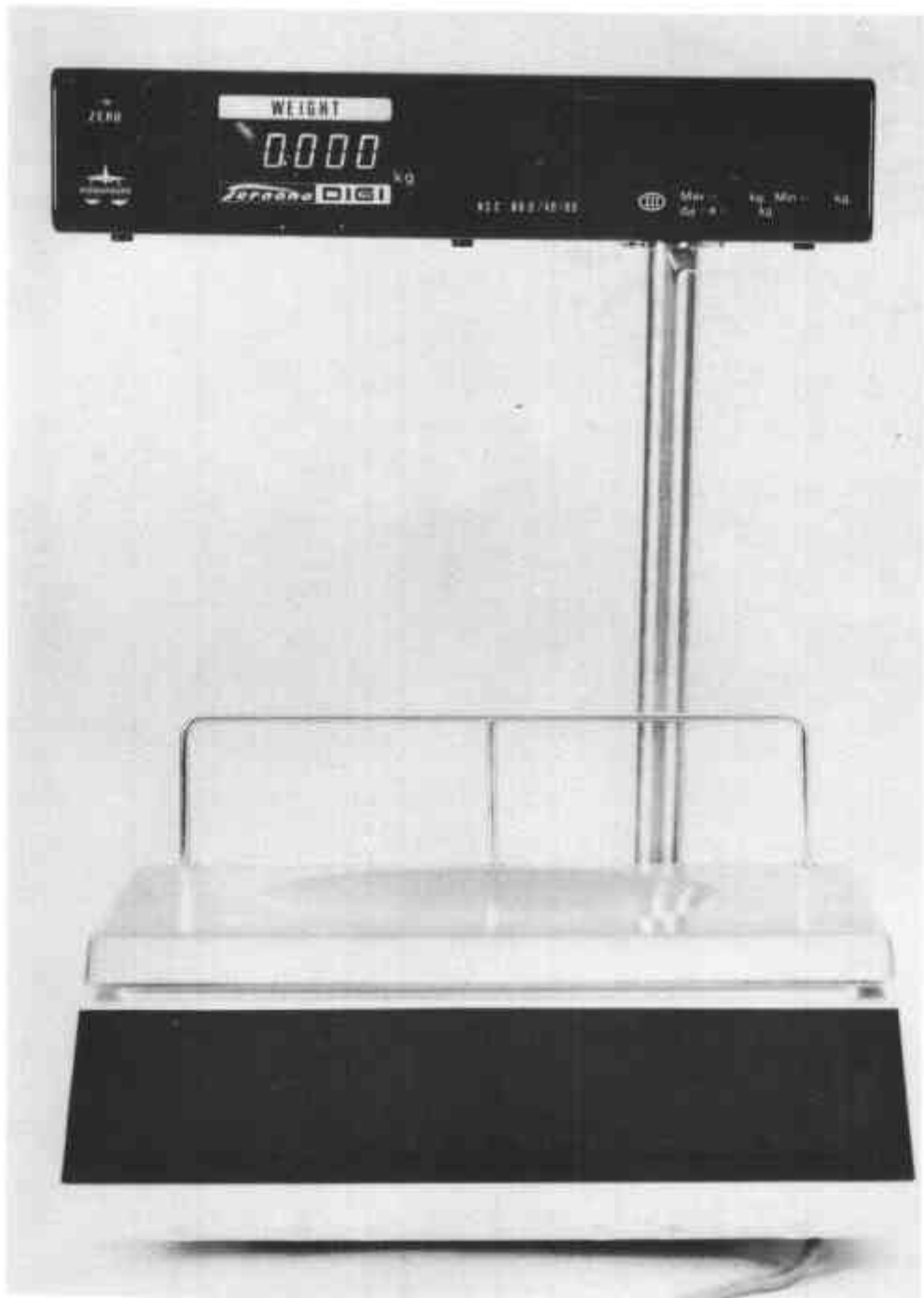
PRICE/kg \$ 99.99	NET-kg 14000	TOTAL PRICE \$9999.0
DATE	PACKED	

(b) After Printing

DP 9100 - Sample Labels/Tickets

7/5/80

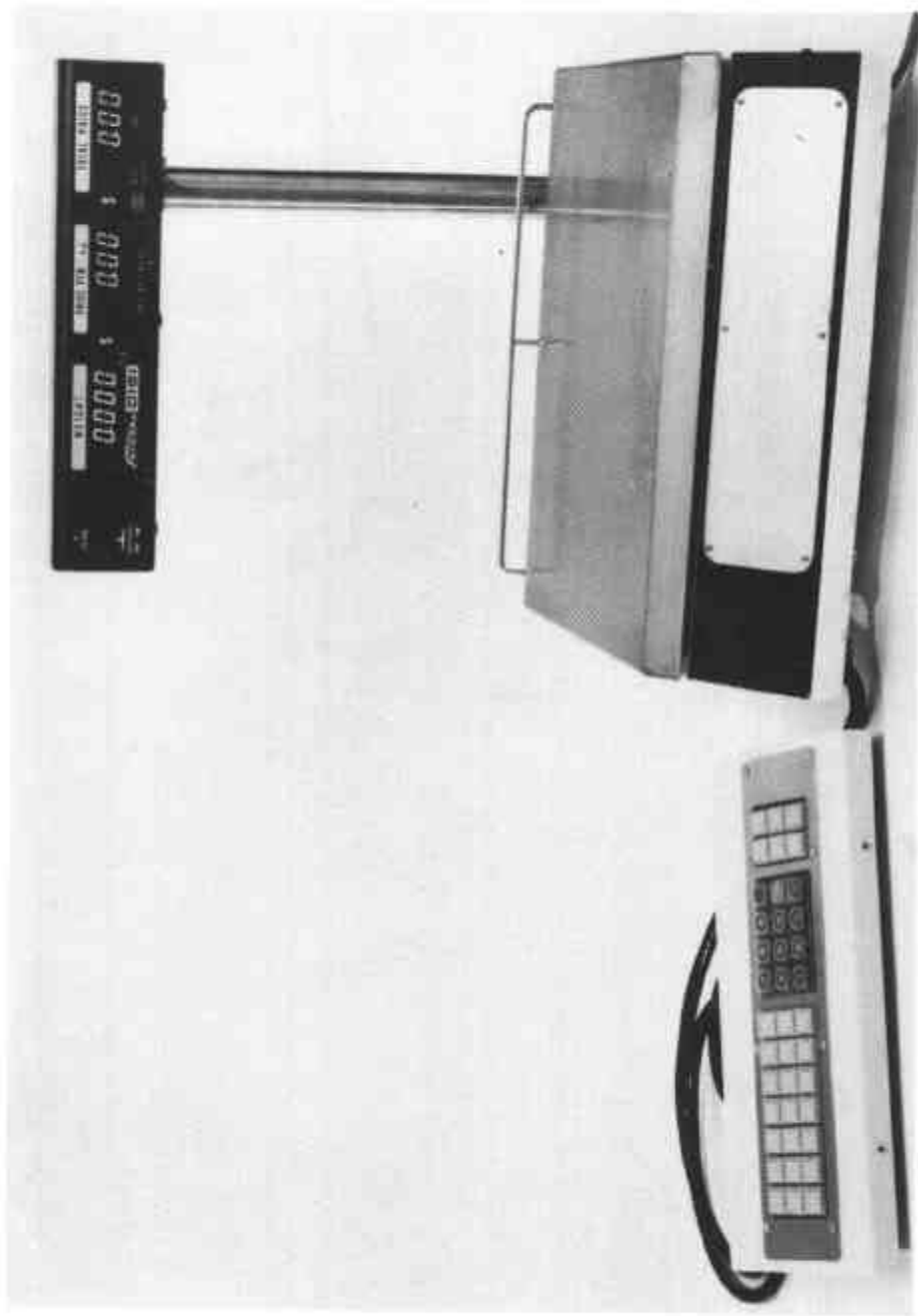
FIGURE 6/4D/83 - 9



DS 606 without Price Computation

25/8/80

FIGURE 6/4D/83 - 10



Teraoka DS 615 with Separate Keyboard