Australian Government

National Measurement Institute

Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

NMI S643

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the instruments herein described.

Mandalay Technologies Model Mandalay CS Point of Sale (POS) System

submitted by   Mandalay Technologies Pty Ltd
37 Merivale Street
South Brisbane   QLD   4101

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

This approval has been granted with reference to document NMI M7, *Pattern Approval Specifications for Point of Sale Systems*, dated June 2012.

This approval becomes subject to review on 1/08/18, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern provisionally approved – interim certificate issued	5/07/13
1	Pattern amended (validity date) – interim certificate issued	13/12/13
2	Pattern approved – certificate issued	28/04/14

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI S643' and only by persons authorised by the submittor.

Instruments purporting to comply with this approval and currently marked 'NMI PS643' may be re-marked 'NMI S643' but only by persons authorised by the submittor.

It is the submittor's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the National Measurement Institute (NMI) and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with document NMI P 106.

Special Conditions of Approval: (weighbridges)

The pattern has not been assessed for compliance with requirements which are outside the scope of document NMI M7, including those features which control the automation of weighbridge operation or ticket formats for public weighbridges.

This Certificate does not constitute or imply approval for these functions. Details of these requirements can be found on the NMI website.

Signed by a person authorised by the Chief Metrologist to exercise their powers under Regulation 60 of the *National Measurement Regulations 1999.*

Dr A Rawlinson

TECHNICAL SCHEDULE No S643

**1.   Description of Pattern   provisionally approved on 5/07/13
                                                  approved on 28/04/14**

A Mandalay Technologies model Mandalay CS system to provide certain additional facilities for transactions when interfaced to compatible (#) NMI-approved measuring instruments granted with reference to document NMI M7.

1.1   Key Features

•   The system provides point of sale arrangements when connected to NMI-approved measuring instruments fitted with a Rinstrum model R420 digital indicator (approval NMI S463) or other compatible (#) NMI-approved measuring instruments.

•   The system receives measurement data from the output interface of the approved measuring instrument indicator and computes prices using a product look up (PLU) facility.

•   The system computes total price for multiple items including non-measured items and is approved for use for transactions direct to the public.

•   Manually entered measurement data shall be indicated as such on a printed transaction record.

•   The system is able to apply a preset tare value up to the maximum capacity of the approved measuring instrument. Preset tare values may be keyboard-entered or stored (e.g. within a PLU facility).

•   The POS controllers may be connected in a network to share common PLU data, for totalisation, and to accumulate and retrieve management information.

(#)   'Compatible' is defined to mean that no additions/changes to the hardware/software specified in this approval are required for satisfactory operation of the system.

1.2   System Description

The Mandalay Technologies model Mandalay CS point of sale (POS) system (Figure 1) comprises:

(i)   POS Controller

The Mandalay Technologies model Mandalay CS POS controller is a server-based application where a PC-based device that operates a Microsoft Windows operating system connects to a server running Mandalay CS version 3.x.x.xxx software.

The Mandalay Core is a software module that provide measurement and price calculation functionality to an application software. The application software includes the models Mandalay Ticketing, Mandalay Landfill, Mandalay Quarry, Mandalay UniBridge, Mandalay Autogate, Mandalay WRS or any other application software or system that interfaces to the approved measuring instrument via the Mandalay Core module.

The software version number is displayed via the 'login' window that automatically appears whenever the software is started.

(ii)   Electronic Indications

Indications shall satisfy the requirements of document NMI M7, *Pattern Approval Specifications for Point of Sale Systems*.

A computer monitor is connected to the POS controller to provide indications for the operator (Figures 2 and 3).

Note: There is no customer display fitted to the POS system.

Information additional to that required by document NMI M7, including totalisation details and product images, may also be indicated.

(iii)   Printing Devices

Transaction records shall satisfy the requirements of document NMI M7, *Pattern Approval Specifications for Point of Sale Systems*.

A Custom model Kube II printer or equivalent (*) is connected to the controller to provide transaction record printing facility. Figure 4 shows a typical transaction record.

Note: Tickets have NOT been assessed for compliance with the requirements for Weighbridge Measurement Tickets as given in relevant Licensing Directives of the trade measurement section of NMI as published on the NMI website.

(*)   'Equivalent' is defined to mean other proprietary equipment of the same or better specifications requiring no changes to the software specified in this approval for satisfactory operation of the system.

(iv)   Multiple Instruments Facility

The Mandalay Technologies model Mandalay CS POS system may be connected to up to three approved measuring instruments. The POS system is configured to display which measuring instrument is connected.

The measuring instrument to be used is preselected by the administrator during system configuration and displayed when the operator logs into the Mandalay CS Ticketing application. Prior to entering data for a transaction an operator can choose to change the indicator used. The measuring instrument to be used is indicated by a programmable name appearing in the display (e.g. 'IN', 'OUT').

Note: In the case of this feature, each instrument/combination shall be clearly identified to correspond to the appropriate measuring instrument display shown on the POS system display. Trade measurement authorities may require additional markings or signs to ensure that these relationships are clear.

The measuring instrument to be used by the operator when they login into the ticketing application is defined by the following parameters

•   In (label can be changed by configuration)

•   Out (label can be changed by configuration)

•   Access Control (where the operator is controlling a remote system)

(v)   Truck Weighing Functions

Providing functions intended specifically for truck weighing applications, including provision for 'truck and product' identification data and pre-set tare values to be stored in memory.

The truck weighing functions provide for:

- simple vehicle weighing, where the gross weight of a vehicle is determined by a single weighing;

- first/second weighing, where a vehicle is weighed before and after a loading or unloading operation;

- single pass weighing, where the net weight of a vehicle is determined from the gross weighing operation and the application of a pre-set tare value; and

- function keys programmed to perform various functions (such as accessing and searching stored vehicle, item, product or client information).

(vi)   Additional System Facilities

In addition, the system may include additional peripheral devices including but not limited to barcode scanning devices, RFID card readers, driver control stations, video surveillance cameras, traffic lights, boom gates and other plant/site-specific control systems. The facilities shall not interact with the system in a way that would cause an incorrect indication of the measured quantity or price.

1.3   Verification Provision

Provision is made for the application of a verification mark.

1.4   Descriptive Markings

The POS controller is marked in a clear and permanent manner, in one location, with the following information:

Submittor's name or mark ……...
Serial number or other unique identifier ……...
Pattern approval number NMI S643

TEST PROCEDURE No S643

The POS system shall be tested in addition to any tests specified in the approval documentation for the measuring instrument/s to which the POS system is connected, as appropriate

The POS system shall be tested in the normal operational mode of the instrument and device, not in 'training mode' or any other management mode.
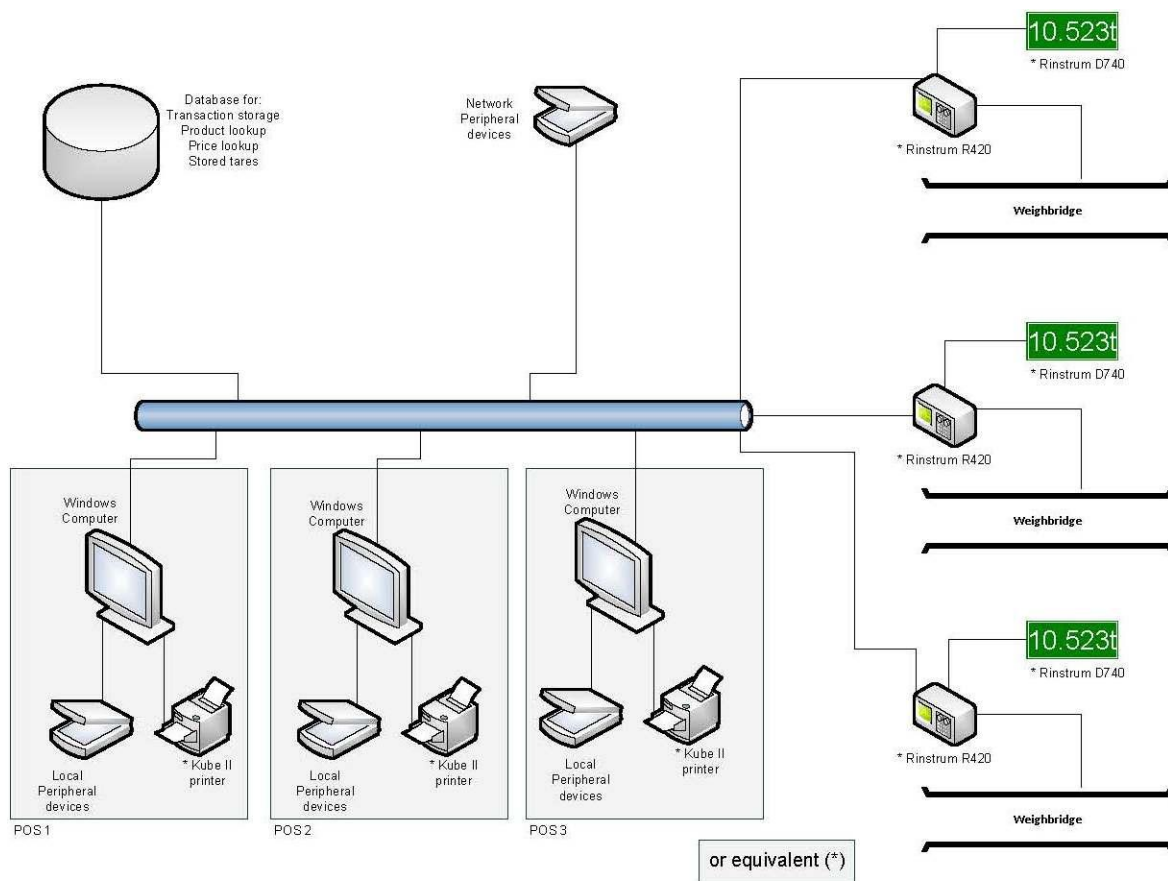
Maximum Permissible Error

The maximum permissible error for price computation is ±0.5 cent.

TESTS

1.   Check the software version number/s.

2.   Check that the POS system faithfully reproduces the measurement data in the same units and scale interval as the connected approved measuring instrument, e.g. test by using a PLU without a stored tare.

3.   Check that the system performs correct price computation, and computes and indicates a correct unrounded subtotal. For cash payment methods, check that any rounding calculation is correct.

4.   Perform a measurement with a preset tare applied and confirm that the POS system correctly calculates and indicates a net measurement result.

5.   Manually enter some pre-determined measurement data and ensure that the printed transaction record clearly indicates the transaction as such.

6.   For network systems check to ensure that the measurement data printed on the transaction record is correctly reproduced.

7.   Ensure that electronic indications and printed information are in accordance with document NMI M7.

FIGURE S643 – 1

Mandalay Technologies Model Mandalay CS Point of Sale (POS) System

FIGURE S643 – 2

A Typical Operator Display

System showing a weight being captured from a scale

FIGURE S643 – 3

A Typical Operator Display

System showing a manual weight being captured

FIGURE S643 – 4

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                    Tax Invoice

Mandalay site
37 Merivale st
south brisbane

Phone: 07 30107900

ABN:                        123 456 789

Ticket No:                      38-MT
Voucher No:

Time In:      22/04/2014 4:38:55 PM
Time Out:     22/04/2014 4:45:51 PM

Vehicle Rego:                  NMI123
Type:                     Light Truck
Category:
Configuration:                 Single
Carrier Code:




Client:       Generic Cash Client
Order Number:
Contract:
EPA Permit No:




Weighed Waste               Price
Domestic Waste            $10.00/t
Source:
Destination:

Each Items            Qty     Price




GROSS Weight:                  10.00t
TARE Weight:                 4.50t(M)
NET Weight:                     5.50t

Chargeable Weight:              5.50t
Each Item Weight:               0.00t
Unit Cost:                  $10.00/t

Council Fee:                   $55.00
Each Items:                     $0.00
EPA Levy:                       $0.00
Cartage :
GST :                           $5.50
Temporary Acc:                  $0.00
==================================
Total Price:                   $60.50
==================================

Payments:
CASH                           $60.50
Total Amount Tendered:          $0.00
Change Given:                   $0.00


Driver:
MANUAL TICKET
Operator:                         nmi


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A Typical Receipt

~ End of Document ~