



**Australian Government**  
**National Measurement**  
**Institute**

Bradfield Road, West Lindfield NSW 2070

**Notification of Change**  
**Supplementary Certificate of Approval**  
**No S424**  
**Change No 1**

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

The following changes are made to the approval documentation for the

Radiant Systems Model Radiant POS Control System for Fuel Dispensers for  
Motor Vehicles

submitted by        Radiant Systems Asia Pacific Pty Ltd  
                            44-46 Little Ryrie Street  
                            Geelong    VIC    3220.

In Supplementary Certificate of Approval No S424 dated 17 November 2003;

1.    The Condition of Approval referring to the review of the approval should be amended to read:  
  
      "This approval becomes subject to review on 1 September **2013**, and then every 5 years thereafter."
2.    The FILING ADVICE should be amended by adding the following:  
  
      "Notification of Change No 1 dated 27 October 2008"

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

A handwritten signature in black ink, appearing to be 'J. K. T.', is written over the signature line.



# Australian Government

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## National Standards Commission

12 Lyonpark Road, North Ryde NSW 2113 Australia

### Supplementary Certificate of Approval

### No S424

Issued 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

Radiant Systems Model Radiant POS Control System for Fuel Dispensers for Motor Vehicles

submitted by   Radiant Systems Asia Pacific Pty Ltd  
44-46 Little Ryrie Street  
Geelong   VIC   3220.

**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.

### CONDITIONS OF APPROVAL



This approval becomes subject to review on 1 September 2008, and then every 5 years thereafter.

Instruments purporting to comply with this approval shall be marked NSC No S424 and only by persons authorised by the submitter.

Instruments incorporating a control system purporting to comply with this approval shall be marked NSC No S424 in addition to the approval number of the instrument.

It is the submitter's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the Commission 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 the Commission's Document NSC P 106.

The Commission reserves the right to examine any instrument or component of an instrument purporting to comply with this approval.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificate No S1/0/A.

### DESCRIPTIVE ADVICE

**Pattern:** approved 15 August 2003

- A Radiant Systems model Radiant POS control system for use with compatible Commission-approved fuel dispensers for motor vehicles.

Technical Schedule No S424 describes the pattern.

### FILING ADVICE

The documentation for this approval comprises:

Supplementary Certificate of Approval No S424 dated 17 November 2003  
Technical Schedule No S424 dated 17 November 2003 (incl. Test Procedure)  
Figures 1 to 7 dated 17 November 2003



Signed by a person authorised under Regulation 60 of the National Measurement Regulations 1999 to exercise the powers and functions of the Commission under this Regulation.

TECHNICAL SCHEDULE No S424

**Pattern:** Radiant Systems Model Radiant POS Control System for Fuel Dispensers for Motor Vehicles

**Submittor:** Radiant Systems Asia Pacific Pty Ltd  
44-46 Little Ryrie Street  
Geelong VIC 3220

## 1. Description of Pattern

The pattern is a Radiant Systems model Radiant POS point of sale control system to provide an attended self-service facility for compatible (#) Commission-approved fuel dispensers for motor vehicles. The fuel dispensers are controlled by the Radiant POS control system through the Radiant Systems model Jaguar 3 Forecourt Control Unit (FCU) and either the Gilbarco distribution module, the Radiant distribution module or both modules.

(#) "Compatible" is defined to mean that no additions/changes to hardware/software are required for satisfactory operation of the complete system including all checking facilities.

### 1.1 Field of Operation

- The Radiant Systems model Radiant POS point of sale control system is approved for environmental class A, a climate-controlled environment between 5°C and 30°C.
- The system can provide a self-service arrangement for up to 32 compatible Commission-approved Gilbarco fuel dispensers through the Gilbarco distribution module.
- The system can provide a self-service arrangement for up to 32 compatible Commission-approved Email, Compac or PEC fuel dispensers through the Radiant distribution module.
- The system allows post-payment or pre-payment deliveries; in the latter case the fuel dispenser must incorporate a pre-set device.
- The system allows up to two transactions per fuel dispenser, i.e. current sale on the fuel dispenser and a stored transaction.
- The nominal supply voltage is 240 V AC.

### 1.2 System Description

#### (i) Operator Console

The Radiant POS operator console (Figure 1) is comprised of an interactive touch-sensitive operator display including a built-in cardreader, operating Radiant POS software version 6.2.

The operator console connects to the Jaguar 3 FCU control unit (Figure 2), other Radiant POS operator consoles and a back office computer via an Ethernet connection, and other devices via RS232 and USB communication ports.

The model Radiant POS control system includes the following additional components:

- A SOLA uninterruptible power supply (UPS) of 750 VA rating or equivalent compatible (#) UPS. (Note that the submittor should be consulted regarding any acceptable alternative UPS.)
- A Radiant Systems model 2x20 customer display (Figure 3).
- An Epson model TM-T88II M129B receipt printer (Figure 4). Note that the printer is mandatory for pre-payment transactions. A sample receipt is shown in Figure 7.
- A cash drawer.

The following devices are optional:

- A barcode scanner.
- A Radiant Systems model Dragonfly colour customer display unit (hinged to the operator display or mounted separately).

(ii) Flowmeter Control Unit

The Radiant Systems model Jaguar 3 FCU flowmeter control unit (Figure 3) provides the interface between the Radiant POS system and the fuel dispensers. The Jaguar 3 unit connects to the Radiant POS via an Ethernet network through an appropriate hub.

(iii) Gilbarco Distribution Module

The Gilbarco model T173DG distribution module (Figure 5) provides the interface to compatible Commission-approved Gilbarco model fuel dispensers.

(iv) Radiant Distribution Module

The Radiant model V3.1 distribution module (Figure 6) provides the interface to compatible Commission-approved Email, Compac or PEC fuel dispensers.

(v) Back Office Server

An IBM compatible back office computer and acts as a file server for the Radiant POS control systems connected on the same network. The back office computer has no contact with active fuel transactions.

### 1.3 Checking Facilities

(i) Flowmeter Control Unit

The Radiant Systems model Jaguar 3 FCU flowmeter control unit receives the fuel sale data (unit price, litres dispensed and total price) directly from the fuel dispenser. Transmitted data is verified with a checksum.

(ii) Uninterruptible Power Supply (UPS)

The Radiant POS operator console monitors the expected remaining battery life left on the UPS and the function of the POS console is maintained until the battery level drops below 15 minutes of power remaining. Once the UPS has reached this point the memory storage ability of the system will be disabled.

If a problem with the UPS occurs which prevents the UPS from signalling expected power remaining, the memory storage facility will be disabled.

An indication on the operator console advises of any significant conditions in the UPS.

(iii) Back Office Server

If an error occurs with the back office file server the Radiant POS system will indicate the failure and signal that an error has occurred. If the error persists until the internal console memory is filled then the Radiant POS system will lock and not allow any further transactions.

An error message is displayed on the operator console reporting that the server is unavailable on the network the console is attached to.

(iv) Printer

If the printer is unavailable a message is displayed on the operator console reporting the details of the error that has occurred with the printer.

(v) Customer Display

If the connection to the customer display is interrupted or an error occurs with the display the memory storage ability will be disabled.

An error message is also displayed on the operator console warning that the display is disconnected. A visual segment checking facility is provided to verify display operation.

#### 1.4 Verification/Certification Provision

The Radiant POS control system has provision for a certification/verification mark to be applied.

#### 1.5 Markings

The Radiant POS operator console is marked with the following data, together in one location:

Manufacturer's name or mark	.....
Model number	.....
Serial number	.....
NSC approval number	S424
Operating temperature range	5°C and 30°C (#)
(#) Alternatively, may be shown as:	
Environmental class	Class A

### TEST PROCEDURE

Instruments shall be tested in conjunction with any test specified in the approval documentation for the instrument to which the pattern is connected, as appropriate, and accordance with any relevant tests in NSC Test Procedure 5, *Driveway Flowmeters*.

The maximum permissible errors applicable are those applicable to the fuel dispenser to which the pattern is connected, as stated in the approval documentation for the dispenser.

Items 2-6 are required at commissioning, thereafter may be conducted at the discretion of the inspecting officer.

1. Check the Radiant POS software version number. Pressing the "Other Functions" button followed by the "Version Info" button from the main POS screen can access software versions.
2. Check the operator console firmware version number; the version number can be viewed at the boot-up loading screen when turning the operator console on.
3. Check that the unit price change for the grade of fuel is implemented to the allocated fuel dispensers when they are available for authorisation.
4. Check that the operator console identifies and displays the correct data for the corresponding number allocated to the fuel dispenser.
5. Check that when the customer display is disconnected from the POS console (simulation of fault), the fuel dispenser cannot be authorised for a second delivery unless the transaction for the first delivery has been completed.
6. A pre-paid delivery is only possible for fuel dispensers with pre-set facility. For a pre-paid delivery check that the amount displayed on the fuel dispenser equals the pre-paid amount.
7. For systems with a printer, check that the printed receipt contains the correct format and data as per the typical sample in Figure 7.

FIGURE S424 – 1



Radiant Systems Model Radiant POS Operator Console



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FIGURE S424 – 2



Radiant Systems Model Jaguar 3 FCU Control Unit

FIGURE S424 – 3



Radiant Systems Customer Display

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FIGURE S424 – 4



Epson Model TM-T88II M129B Receipt Printer

FIGURE S424 – 5



Gilbarco Model T173DG Distribution Module

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FIGURE S424 – 6



Radiant Model V3.1 Distribution Module

FIGURE S424 – 7

**WELCOME TO  
RADIANT SYSTEMS**

ACN: 006 967 175  
44-46 Little Ryrie Street  
Geelong  
03 5225 5000  
ABN: 88 888 888 022

**TAX INVOICE**

**Fuel Sale**

Pump Number:1	Unleaded	
13.04 Litres x	\$0.899/Litre	\$11.72 *
1	COKE 375ML EA	\$1.90 *
1	DIET COKE 1.5L EA	\$3.50 *
1	Rounding	-\$0.02

Balance Due:	\$17.10
Tendered:	
Cash	\$20.00
Change Due:	\$2.90

Total Includes GST	\$1.56
* - Indicates items with GST	

Operator: Manager,A	Register: 1
Tran Seq No: 31584109	7/10/03 15:53:43

THANK YOU FOR SHOPPING WITH  
**RADIANT SYSTEMS**  
PLEASE RETAIN THIS RECEIPT