Product Service

SECTION 1

REPORT SUMMARY

EMC Approval Testing of the
Brigade Electronics plc
BE-990C Rear View Colour Camera

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1.1 INTRODUCTION

The information contained in this report is intended to show verification of the EMC Approval Testing of the Brigade Electronics plc, BE-990C rear View Colour Camera, to the requirements of ISO 13766, for electric/electronic components to be fitted in Earth Moving Machinery

Objective	To perform EMC Type Approval Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification for the series of tests carried out.
Manufacturer	Brigade Electronics plc.
Country of Origin	UK
Number of Samples Tested	One c
Model/Part Number	BE-990C
Operating Voltage	12V DC
Declared Variants	None declared
Test Specification/Issue/Date	ISO 13766, Second edition, 2006-05-15
Build Status	Version 1.0
Software Issue	N/A
Incoming Release BSD Number Date	Declaration of Build State 75905099/36 20 November 2008
Disposal Packing Note Number Date	Held at TÜV PS 75905099-36000 02 December 2008
Order Number Date	S0138 25 July 2008
Start of Test	20 November 2008
Finish of Test	02 December 2008
Test Engineers	R Bennett, R Johnston, B Logan
Related Documents	CISPR 25: 2nd Edition 2002 ISO 10605: 2001 ISO 11452-2: 2nd Edition 2004 ISO 11452-4: 3rd Edition 2005 ISO 7637-2: 2nd Edition 2004

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1.2 BRIEF SUMMARY OF RESULTS

A brief summary of the tests carried out to ISO 13766 is shown below.

Test	Spec Clause	Test Description	Result	Base Standard
2.1	Clause 5; 5.6	Radiated Broadband Electromagnetic Emissions, Electric/Electronic Subassemblies 30MHz to 1000MHz	Pass	CISPR 25
	Clause 5; 5.7	Radiated Narrowband Electromagnetic Emissions, Electric/Electronic Subassemblies 30MHz to 1000MHz		
2.2	Clause 5; 5.8.3	Electromagnetic Radiation (AM), Absorber Lined Chamber Test Method	Pass	ISO 11452-2
2.3	Clause 5; 5.8.3	Electromagnetic Radiation, Bulk Current Injection Test Method	Pass	ISO 11452-4
2.4	Clause 5; 5.9	Electrostatic Discharge – Enclosure Port	Pass	ISO 1065
2.5	Clause 5; 5.10	Immunity of Electric/Electronic Subassemblies to Transient Disturbances Conducted Along Supply Lines	Pass	ISO 7637-2

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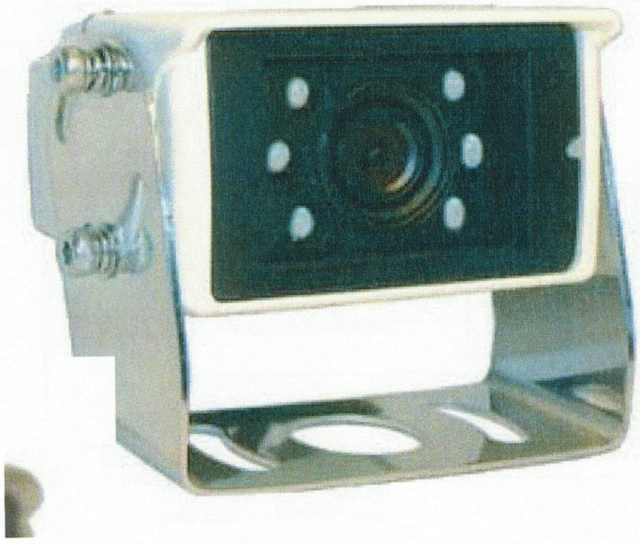
1.3 PRODUCT INFORMATION

1.3.1 Technical Description

The Equipment Under Test (EUT) was an Brigade Electronics plc, Brigade Electronics plc, BE-990C Rear View Colour Camera as shown in the photograph below.

A full technical description of the equipment under test can be found in the manufacturer's documentation.



Equipment Under Test

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1.3.2 Test Configuration

When fitted to a vehicle, the EUT obtains it's voltage supply from the Monitor it is connected to. For this stand-alone testing the EUT was connected to nominal 12V DC supply via a LISN on each supply line.

1.3.3 Modes of Operation

Video from camera continuously output from EUT in analogue video format and displayed on a suitable video monitor screen

1.3.4 Monitoring of Performance

The continuous operation of the EUT was monitored by observing the monitors.

1.3.5 Manufacturers Performance Criteria

Radiated Immunity: During application of the test phenomenon, picture interference is permissible but severe breakup or loss of picture is not. The EUT must recover and operate normally without user intervention when the test phenomenon is removed.

Transient Immunity: During application of the pulses, loss of picture is allowed but the EUT must recover and operate normally without user intervention, when the test phenomenon is removed.

1.4 DEVIATIONS FROM THE STANDARD

There were no deviations from the specifications used during testing

1.5 MODIFICATION RECORD

No modifications were made to the EUT during testing.

1.6 TEST SITE

The testing was carried out at our Bearley test site near Stratford-upon-Avon, Warwickshire.