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Web: www.vca.gov.uk

Mr G Hann
Directed Electronics
C/O SGS

Your Reference:

Date: 28 February 2008

Dear Mr Hann

MANUFACTURER OR ACCREDITED AGENT: Directed Electronics Inc

ECE REGULATION/EEC DIRECTIVE: 72/245EC, R10, 74/61EC, R97

Job No.	**Vehicle Component**	**Approval No.**
EAH183969	CAN bus alarm systems	e11*72/245*2006/28*4543*00 10R-02 4543 e11*74/61*95/56*2311*00 97R-2311

1. This vehicle component has been tested and meets the requirements of the above ECE Regulation/EEC Directive. I enclose a set of approval documents, comprising the approval, test report and your documentation duly authenticated.

2. If you think there are any errors in the enclosed package, please contact Andrew Meadows, telephone 0117 952 4187, e-mail andrew.meadows@vca.gov.uk immediately. Please be aware that from the date of issue we have a three week holding period, any corrections required after this time will need to be corrected via an extension, index revision or correction 1 certificate, as appropriate.

ROAD TRAFFIC ACT 1988 - SECTION 80

3. The Secretary of State for Transport authorises, under section 80 of the Road Traffic Act 1988, the above manufacturer or accredited agent to apply to the motor vehicle type/part specified, the appropriate mark designated in the Motor Vehicles (Designation of Approval Marks) Regulations 1979, as amended. The conditions attached to this authorisation are set out overleaf.

4. If this approval/extension results in a change being needed to a vehicle information document issued under the goods vehicle or passenger car national type approval scheme, you should notify us (i.e. submit a 'notifiable alteration') as soon as possible, using the address VCA (Whole Vehicle), Room 1.2, The Eastgate Office Centre, Eastgate Road, Bristol BS5 6XX.

5. VCA is continually scrutinising the quality of the service it provides to customers, in order to discover more ways in which the standard can be improved. If you have a specific complaint concerning the way this job has been dealt with, our customer services leaflet gives guidance on the best approach. If you would like a copy, please contact the undersigned.

Yours sincerely

Jessica Stephens
Product Certification

INVESTOR IN PEOPLE

POSITIVE ABOUT DISABLED PEOPLE

VCA Midlands Centre
Nuneaton, Warwickshire, UK
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THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

COMMUNICATION CONCERNING THE TYPE APPROVAL OF A TYPE OF COMPONENT, WITH REGARD TO DIRECTIVE (72/245/EEC) AS LAST AMENDED BY DIRECTIVE 2006/28/EC .

Type Approval No: e11*72/245*2006/28*4543*00

Reason for Extension: Not applicable

SECTION I

0.1 Make (trade name of manufacturer): Directed Electronics Inc

0.2 Type: Universal fitment CAN bus alarm systems for vehicle

0.3 Means of identification of type, if marked on the component: Clifford 330X1 (part No. 2901XT), Clifford 330X2 (part No. 3902XT), Clifford 330X3 (part No. 3903XT).

0.3.1 Location of that marking: The model name is usually mounted on the top plastic half of the enclosure and sides of box. The model number is mounted on the bottom of the box.

0.5 Name and address of manufacturer:

Directed Electronics Inc
Viper Way, Vista
San Diego
California
92083
usa

Name and address of authorised representative, if any:

Directed Electronics Inc,
Unit C, Longmead Business Centre
Blenheim Road
Epsom
Surrey
KT19 9QQ

28-Feb-08
UK Approval Authority

An executive agency for the Department for Transport

0.7 In the case of components and separate technical units, location and method of affixing of the EC approval mark: Production label will be fixed on the top of the metal enclosure.

0.8 Address(es) of assembly plant(s):

Nutek Corporation
5F, No.3 Alley 6, Lane 45
Pao-Hsing Road
Hsing – Tien City
Taipei
Taiwan

28-Feb-08
UK Approval Authority

SECTION II

1. Additional information (where applicable): see Appendix 2

2. Technical service responsible for carrying out the tests: SGS IEA UK Limited

3. Date of test report: 31 December 2007

4. Number of test report: AUT114398/1/GT/07

5. Remarks (if any):

6. Place: BRISTOL

7. Date: 28 FEBRUARY 2008

8. Signature: A. W. STENNING
Head of Technical and Quality Group

9. The type-approval file deposited at the Administrative Service having delivered the type-approval, may be obtained on request.

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APPENDIX

to EC Type Approval Certificate No: e11*72/245*2006/28*4543*00

concerning the type approval of an electric/electronic sub-assembly with regard to Directive 72/245/EEC as last amended by Directive 2006/28/EC

1. Additional information

1.1 Electrical system rated voltage: 12V DC

1.2 This ESA can be used on any vehicle type with the following restrictions: 12V DC

1.2.1 Installation conditions, if any: See instructions supplied

1.3 This ESA can only be used on the following vehicle types: Not applicable

1.3.1 Installation conditions, if any: Not applicable

1.4 The specific test method(s) used and the frequency ranges covered to determine immunity were (please specify precise method used from Annex 1X): 20 to 400MHz – BCI at 60 m-Amps, 400 to 2000MHz Free field at 30 V/m.

1.5 Laboratory accredited to ISO 17025 and recognised by the Approval Authority (for the purpose of this Directive) responsible for carrying out the test: SGS IEA UK Limited (Durham)

5. Remarks: None

VCA 28-Feb-08 UK Approval Authority

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THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY Rev 1/03

E11

COMMUNICATION CONCERNING THE APPROVAL GRANTED OF A TYPE OF ELECTRICAL/ELECTRONIC SUB-ASSEMBLY (1) WITH REGARD TO REGULATION NO: 10 AS AMENDED BY THE 02 SERIES OF AMENDMENTS

Approval No: 10R-02 4543

Reason(s) for extension: Not applicable

1. Make (trade name of manufacturer): Directed Electronics Inc

2. Type and general commercial description(s): Universal fitment CAN bus alarm systems for vehicle

3. Means of identification of type, if marked on the component: Clifford 330X1 (part No. 3901XT), Clifford 330X2 (part No. 3902XT), Clifford 330X3 (part No. 3903XT)

3.1 Location of that marking: The model name is usually mounted on the top plastic half of the enclosure and sides of box. The model number is mounted on the bottom of the box.

4. Category of vehicle: Not applicable

5. Name and address of manufacturer:

Directed Electronics Inc
Viper Way, Vista
San Diego
California 92083
USA

6. In the case of components and separate technical units, location and method of affixing of the ECE approval mark: Production label will be fixed on the top of the metal enclosure.

28-Feb-08
UK Approval Authority

7. Address(es) of assembly plant(s):

Nutek Corporation
5F, No. 3 Alley 6
Lane 45
Pao-Hsing Road
Hsing-Tien City
Taipei
Taiwan

8. Additional information (where applicable): See Appendix

9. Technical service responsible for carrying out the tests: SGS IEA UK Limited

10. Date of test report: 31 December 2007

11. Number of test report: AUT114398/1/GT/07

12. Remarks (if any): See Appendix

13. Place: BRISTOL

14. Date: 28 FEBRUARY 2008

15. Signature:

A W STENNING
Head of Technical and Quality Group

16. The index to the information package lodged with the approval authority, which may be obtained on request is attached.

EAH183969

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Appendix to Type Approval Communication Certificate No: 10R-02 4543
concerning the type approval of an electrical/electronic sub-assembly under Regulation No: 10

1. Additional information

1.1. Electrical system rated voltage: 12V negative ground

1.2 This ESA can be used on any vehicle type with the following restrictions: 12V negative ground

1.2.1 Installation conditions, if any: See manufacturer's instructions

1.3 This ESA can be used only on the following vehicle types: Not applicable

1.3.1 Installation conditions, if any: Not applicable

1.4 The specific test method(s) used and the frequency ranges covered to determine immunity were: (Please specify precise method used from Annex 9): BCI20 to 400MHz at 60 m-Amps, 400 to 2000MHz. Free field at 30 V/m.

1.5 Approved/accredited laboratory (for the purpose of this Regulation) responsible for carrying out the test: SGS IEA UK Limited (Durham)

2. Remarks: None

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THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

Rev 1/03

COMMUNICATION CONCERNING THE GRANTING OF EEC TYPE APPROVAL OF A COMPONENT OF A VEHICLE IMMOBILIZER WITH REGARD TO DIRECTIVE 74/61/EEC AS LAST AMENDED BY 95/56/EC

Type Approval No: e11*74/61*95/56*2311*00

Reason(s) for Extension: Not applicable

SECTION I

0.1 Make (trade name of manufacturer): Directed Electronics

0.2 Type and general commercial description(s): Universal fitment CAN bus alarm systems for vehicle

0.3 Means of identification of type if marked on the component: Clifford 330X1 (part No. 3901XT), Clifford 330X2 (part No. 3902XT), Clifford 330X3 (part No. 3903XT)

0.3.1 Location of that marking: The model name is usually mounted on the top plastic half of the enclosure and sides of box. The model number is mounted on the bottom of the box.

0.4 Category of vehicle: Not applicable

0.5 Name and address of manufacturer:

Directed Electronics Inc
Viper Way, Vista
San Diego
California
92083
USA

0.7 In the case of components and separate technical units, location and method of affixing of the EEC type approval mark: Production label will be fixed on the top of the metal enclosure

28-Feb-08
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0.8 Address(es) of assembly plant(s):

Nutek Corporation
5F No.3 Alley 6, Lane 45
Pao-Hsing Road
Hsing-Tien City
Taipei
Taiwan

28-Feb-08
UK Approval Authority

SECTION II

1. Additional information (where applicable): See addendum

2. Technical service responsible for carrying out the tests: SGS IEA UK Limited

3. Date of test report: 31 December 2007

4. Number of test report: AUT114398/2/GT/07

5. Remarks (if any): See addendum

6. Place: BRISTOL

7. Date: 28 FEBRUARY 2008

8. Signature: A. W. STENNING
Head of Technical and Quality Group

9. The index to the information package lodged with the approval authority, which may be obtained on request, is attached.

EAH183969

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Addendum

to EEC Type Approval Certificate No: e11*74/61*95/56*2311*00

concerning the type approval as a separate technical unit/component* of a vehicle immobilizer with regard to Directive 74/61/EEC, as last amended by Directive 95/56/EC

1. Additional information:

1.1 Trade name or mark of the alarm system: Clifford 330X1 (part No. 3901XT), Clifford 330X2 (part No. 3902XT), Clifford 220X3 (part No. 3903XT)

1.2 Type of the alarm system: Universal fitment CAN bus alarm systems for vehicle

1.3 Brief description of the alarm system: 12 volt DC alarm which operates from the vehicles "CAN" bus. With battery back up siren, and sensors ultrasonic, door/boot/bonnet, ignition, also built in shock and a trigger for one immobiliser circuit.

1.4 List of vehicles to which the immobilizer is intended to be fitted: Not applicable

1.5 Types of vehicle on which the immobilizer has been tested: Ford Sierra, 5 door, 1.6L model

1.6 List of main components, duly identified, comprising the alarm system: Main control unit, battery back up siren, LED/switch-pin unit, ultrasonic module, and cable harnesses.

5. Remarks: None

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THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY Rev 1/03

E11

COMMUNICATION CONCERNING THE APPROVAL GRANTED OF A TYPE OF VEHICLE ALARM SYSTEM (VAS) PURSUANT TO PART I OF REGULATION NO: 97.01

Approval No: 97R-2311

1. Trade name or mark of the VAS: Directed Electronics Inc

2. Type of VAS: Clifford 330X1 (part No. 3901XT), Clifford 330X2 (part No. 3902XT), Clifford 330X3 (part No. 3903XT)

3. Manufacturer's name and address:

   Directed Electronics Inc
   Viper Way, Vista
   San Diego
   California 92083
   USA

4. If applicable, name and address of manufacturer's representative:

   Directed Electronics Inc
   Unit C, Longmead Business Centre
   Blenheim Road
   Epsom
   Surrey
   KT19 9QQ

5. Brief description of the VAS and of the immobilizer (if applicable):
   12 volt DC alarm which operates from the vehicles “CAN” bus. With battery back up siren, and sensors ultrasonic, door/boot/bonnet, ignition, also built in shock and a trigger for one immobiliser circuit.

6. Type of vehicle on which the VAS has been tested: Ford Sierra, 5 door, 1.6L model

7. System submitted for approval on: 29 November 2007

28-Feb-08
UK Approval Authority

8. Technical service responsible for conducting approval test: SGS IEA UK Limited

9. Date of test report issued by that service: 31 December 2007

10. Number of test report issued by that service: AUT114398/2/GT/07

11. Approval GRANTED:

12. Reason(s) for extension of approval: Not applicable

13. If applicable, position of the approval mark(s) on the main component: Production label will be fixed on the top of the metal enclosure.

14. Place: BRISTOL

15. Date: 28 FEBRUARY 2008

16. Signature: A W STENNING
Head of Technical and Quality Group

17. The following documents, bearing the approval number shown above, are retained by the issuing authority:

- list of components, duly identified, constituting the VAS; Main control unit, battery back up siren, LED/switch-pin unit, ultrasonic module, and cable harnesses.

- list of files deposited with the Administrative Service which granted type approval, and which can be obtained upon request.

EAH183969

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APPROVAL NUMBER: e11*72/245*2006/28*4543*00

INFORMATION PACKAGE CONTENTS

INDEX

REVISION NUMBER: Not applicable

Total number of sheets:	79 (Seventy-Nine)
Number of separate drawings:	0 (Nil)
Number of separate photographs:	0 (Nil)

Reasons for Revision: Not applicable

EAH183969

Revision date
&
Office stamp

28-Feb-08
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Web: www.vca.gov.uk

APPROVAL NUMBER: e11*74/61*95/56*2311*00

INFORMATION PACKAGE CONTENTS

INDEX

REVISION NUMBER: Not applicable

Total number of sheets:	79 (Seventy-Nine)
Number of separate drawings:	0 (Nil)
Number of separate photographs:	0 (Nil)

Reasons for Revision: Not applicable

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Revision date
&
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Technical Construction File – Directed Electronics
Clifford 330X1, 330X2 & 330X3

Document Ref 95/56 / 2006/28/EC / Reg97 / Reg10 Directives.

Section 0 General Details

Section 0.1 Make. State the commercial/name(s)
Directed Electronics Inc.

Section 0.2 Type and General Commercial Description.
Universal fitment CAN bus alarm systems for vehicle.

Section 0.3 State the model number and name of the product,
Clifford 330X1 (part number 3901XT), Clifford 330X2 (part number 3902XT), Clifford 330X3 (part number 3903XT)

Section 0.3.1 State where the model number is situated on the product, and how it is marked,
The model name is usually mounted on the top plastic half of the enclosure and sides of box. The model number is mounted on the bottom of the box.

Section 0.5 Name and address of Manufacturer
Directed Electronics Inc. Vista, San Diego, California, 92083, USA.

Section 0.5.1 Name and address of Manufacturer's representative inside the European Union (if applicable). **Directed Electronics**
Unit C Longmead Business Centre, Blenheim Road, Epsom, Surrey, KT19 9QQ

Section 0.7 State how and where the type approval mark will be affixed
Production label will be fixed to the top of the metal enclosure.

Section 0.8 Address(es) of assembly plants
Nutek Corporation, 5F, No, 3 Alley 6, Lane 45, Pao-Hsing Road, Hsing – Tien City, Taipei, Taiwan

Section 1 This product shall be approved as a component/STU (delete as applicable) **Component**

Section 2 Restrictions of use and conditions for fitting.
Universal Fitment. Thatcham category 2 to 1 approved CAN bus alarm systems can be fitted to any 12-volt negative earth vehicle. Installation guides are included in the TCF for further detail. System has 2 methods of setting and un-setting – Arm/disarm command via vehicle CAN Network and 4-digit PIN code via valet switch

Section 2.1
Main component list inside front cover of Instruction/User guides (section 3)

Section 2.2 Engineering Schematics
Alarm PCB

Section 2.2 Mechanical Drawings
Full system Bill of materials

Section 3
The Clifford 330X1 (fault tolerant) is the parent item (therefore test unit). The 2 child units are 330X2 (Single Wire) and 330X3 (High Speed)

Section 3.1
All system/User Guides are included at the back of this section. The product does not require any maintenance other than remote control battery replacement (see user guide for instructions).
In order –
Clifford 330X

Section 4 Test reports to be added by SGS

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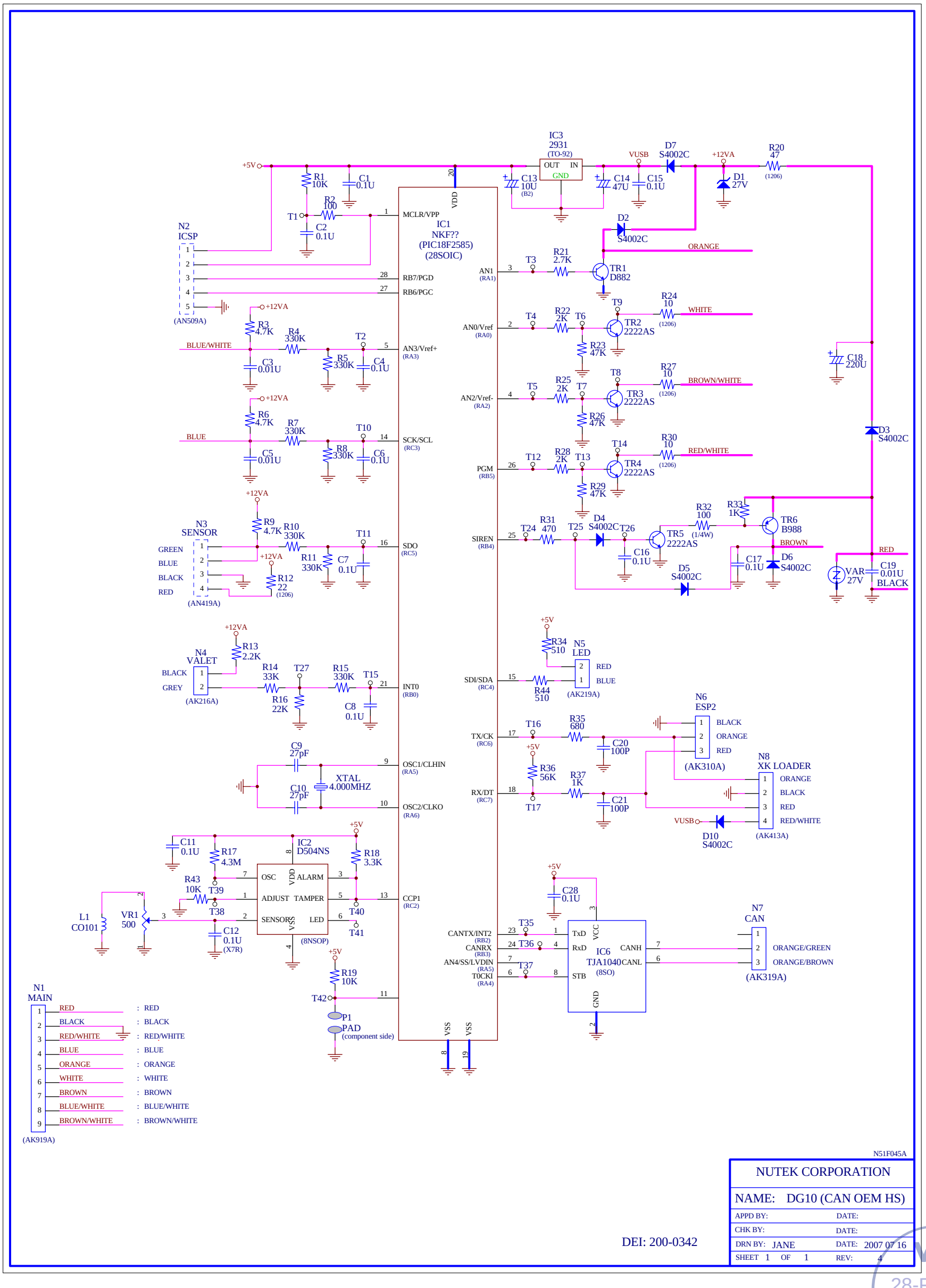
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(28SOIC)
IC2
D504NS
(8NSOP)
IC3
2931
(TO-92)
IC6
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(8SO)
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N2
ICSP
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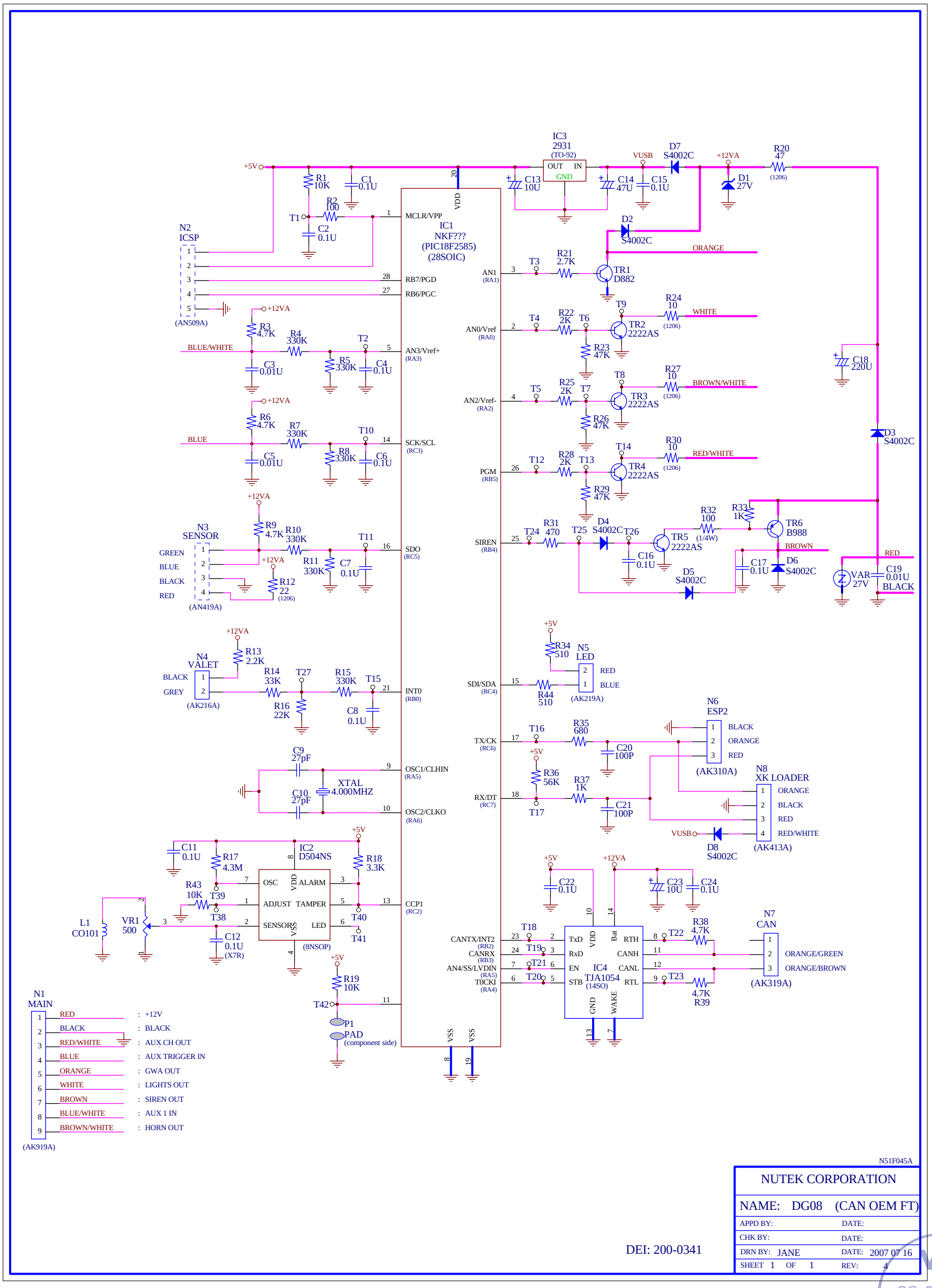
N3
SENSOR
(AN419A)
N4
VALET
(AK216A)
N5
LED
(AK219A)
N6
ESP2
(AK310A)
N7
CAN
(AK319A)
N8
XK LOADER
(AK413A)
XTAL
4.000MHZ
VAR
27V
P1
PAD
(component side)
N51F045A
NUTEK CORPORATION
NAME: DG10 (CAN OEM HS)
APPD BY:
DATE:
CHK BY:
DATE:
DRN BY: JANE
DATE: 2007 07 16
SHEET 1 OF 1
REV: 4
DEI: 200-0342
28-Feb-08
UK Approval Authority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VALET
(AK216A)
N5
LED
(AK219A)
N6
ESP2
(AK310A)
N7
CAN
(AK319A)
N8
XK LOADER
(AK413A)
XTAL
4.000MHZ
VR1
500
L1
CO101
P1
PAD
(component side)
VAR
27V
D1
27V
D2
S4002C
D3
S4002C
D4
S4002C
D5
S4002C
D6
S4002C
D7
S4002C
D8
S4002C
TR1
D882
TR2
2222AS
TR3
2222AS
TR4
2222AS
TR5
2222AS
TR6
B988
R20
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R27
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R30
10
(1206)
R32
100
(1/4W)
R12
22
(1206)
R44
510
ORANGE
WHITE
BROWN/WHITE
RED/WHITE
BROWN
RED
BLACK
BLUE/WHITE
BLUE
+5V
+12VA
VUSB
VDD
VSS
MCLR/VPP
RB7/PGD
RB6/PGC
AN3/Vref+ (RA3)
SCK/SCL (RC3)
SDO (RC5)
INT0 (RB0)
OSC1/CLHIN (RA5)
OSC2/CLKO (RA6)
CCP1 (RC2)
AN1 (RA1)
AN0/Vref (RA0)
AN2/Vref- (RA2)
PGM (RB5)
SIREN (RB4)
SDI/SDA (RC4)
TX/CK (RC6)
RX/DT (RC7)
CANTX/INT2 (RB2)
CANRX (RB3)
AN4/SS/LVDIN (RA5)
T0CKI (RA4)
RED : +12V
BLACK : BLACK
RED/WHITE : AUX CH OUT
BLUE : AUX TRIGGER IN
ORANGE : GWA OUT
WHITE : LIGHTS OUT
BROWN : SIREN OUT
BLUE/WHITE : AUX 1 IN
BROWN/WHITE : HORN OUT
ORANGE/GREEN
ORANGE/BROWN
N51F045A
NUTEK CORPORATION
NAME: DG08 (CAN OEM FT)
APPD BY:
DATE:
CHK BY:
DATE:
DRN BY: JANE
DATE: 2007 07 16
SHEET 1 OF 1
REV: 4
DEI: 200-0341
28-Feb-08
UK Approval Authority

CLIFFORD®

Model
330X1/330X2/330X3

Installation Guide

NOTE: This product is intended for installation by a professional installer only! Any attempt to install this product by any person other than a trained professional may result in severe damage to a vehicle's electrical system and components.

Directed® ELECTRONICS

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N330X 2008-02

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Bitwriter®, Code Hopping™, Doubleguard®, ESP™, FailSafe®, Ghost Switch™, Learn Routine™, Nite-Lite®, Nuisance Prevention® Circuitry, Revenger®, Silent Mode™, Soft Chirp®, Stinger®, Valet®, Vehicle Recovery System®, VRS®, and Warn Away® are all Trademarks or Registered Trademarks of Directed Electronics.

The Bitwriter® (p/n 998T) requires chip version 2.5 or newer to program this unit.

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28-Feb-08
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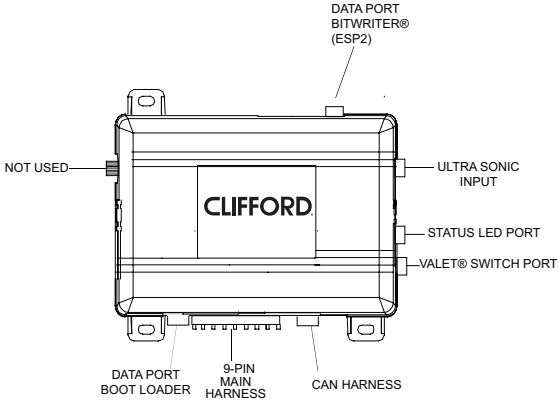
What Is Included

- The control module
- 9-pin main harness
- 4-pin sensor harness
- Clifford Superbright status LED
- VALET program switch
- 3-pin CAN (control area network) harness
- 515ESP Smart Self-Power siren

Control Module



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WARNING: Before beginning your install go to www.XPRESSVIP.com and be sure to print the LATEST corresponding installation manual for the firmware that is flashed to the platform you are using.

IMPORTANT! Before you begin the install process ensure the hardware matches the vehicle and verify the wires needed.

Installation points to remember

This product represents many years of research and development. It is very sophisticated and should be installed by experienced security installers only. Please do not attempt installation of this product without reading this guide.

This product is not intended for consumer installation and will have NO WARRANTY unless it is installed by an authorized dealer. Do not disconnect the battery if the vehicle has an anti-theft coded radio. If equipped with an airbag, avoid disconnecting the battery if possible.

IMPORTANT! Please read this entire installation guide before beginning the installation. The installation of this security system requires interfacing with many of the vehicle's systems. Many new vehicles use low-voltage or multiplexed systems which can be damaged by low resistance testing devices, such as test lights or logic probes. Test all circuits with a high-quality digital multi-meter before making the connections.

IMPORTANT! Many airbag systems will display a diagnostic code through their warning light after they lose power. Disconnecting the battery requires this code to be erased, a procedure that can require a trip to the dealer.

Before beginning the installation

- Check with the customer to determine the LED and Valet switch locations.
- Roll down a window to avoid being locked out of the car.

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After the installation

- Test all functions. The "Using Your System" section of the Owner's Guide is very helpful when testing.
- Carefully reassemble the under-dash trim panels.
- Inspect the engine compartment for tools that may have been left behind.

Tools required

This is a general list of tools required to complete the installation of this security system for most vehicles. Some vehicles may require additional tools.

- Digital multi-meter
- Nutdriver and/or socket set
- Wire cutters/strippers
- Panel removal tool
- Solderless terminal crimpers
- Drill bit set
- Cordless power drill
- Phillips head screwdriver
- Torx driver set - Work light
- Soldering iron

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Deciding on component locations

Control module

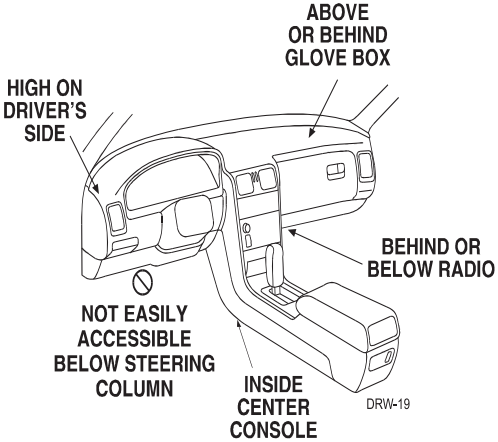
Some things to remember about where to mount the control module

■ Never put the control module in the engine compartment!

■ The first step in wiring a vehicle is removing the driver's side under-dash panel to access the starter and ignition wires. If the control module is placed just behind the driver's side dash it can easily be disconnected.

■ When mounting the control module, try to find a secure location that will not require you to extend the harnesses' wires (they are 1.5 meters long). Keep it away from the heater core (or any other heat sources) and any obvious leaks.

■ Some good control module locations are: Above the glove box, inside the center console, above the under-dash fuse box, or above the radio.



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Status LED

Things to remember when positioning the LED:

- The LED can be top-mounted or flush mounted.
- If top-loading the LED with a bezel, the LED fits into a 5/16-inch mounting hole.
- If flush-mounting the LED from the back of a panel, drill a mounting hole using a 17/64 inch drill bit.
- Be sure to check for clearance prior to drilling the mounting hole.

Valet program switch

The Valet/Program switch should be accessible from the driver's seat. Consider how the switch will be used before choosing a mounting location. Check for rear clearance before drilling a 9/32-inch hole and mounting the switch.

Starter kill relay

If the Starter kill relay or its connections are immediately visible when removing the under dash panel, they can easily be bypassed. Always make the relay and its connections difficult to discern from the factory wiring! Exposed yellow butt connectors do not look like factory parts, and will not fool anyone! For this reason, routing the starter kill wires away from the steering column is recommended.

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Connecting your wires

Now that you have decided where each component will be located, you're going to find the wires in the car that the security system connects to.

IMPORTANT! Do not use a 12V test light to find these wires! Use a digital multimeter for all testing described in this manual.

Obtaining constant 12V

We recommend two possible sources for 12V constant: the fuse box, or the constant supply to the ignition switch. If you connect the module to the CAN bus wire at the OBD II plug, you can use the +12v wire existent in the plug. Always install a fuse within 12 inches of this connection.

IMPORTANT! Do not remove the fuse holder on the red (N1/3) wire. It ensures that the control module has its own fuse, of the proper value, regardless of how many accessories are added to the main power feed.

Finding a light wire

Find a (-) indicator light wire

Use the following procedure to find a (-) indicator light flash wire with your multimeter:

1. Set to DCV or DV voltage (12V or 20V).
2. Attach the (+) probe of the meter to a fused (+) source.
3. Probe the wire you suspect of being the indicator light wire. Usually, the area near the headlight/indicator light switch is an excellent area to start, as is the kick panel. Refer to the directechs.com for specific vehicle information.
4. Turn on the indicator lights. If your meter shows 12V, turn off the indicator lights and make sure it goes back to zero.

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Main harness wire connection guide

N1/1	RED	(+) 12V Constant Power
N1/2	BLACK	(-) Chassis Ground Input
N1/3	RED/HITE	(-) 200mA Auxiliary Channel Output
N1/4	BLUE	(-) Instant Trigger Input
N1/5	ORANGE	(-) Ground While Armed Output
N1/6	WHITE	(-) 200 mA Light Flash Output
N1/7	BROWN	(+) Siren Output
N1/8	BLUE/WHITE	(-) Status/shunt Input
N1/9	BROWN/WHITE	(-) 200 mA Horn Output

N1/1 RED – (+) 12V constant power input: Before connecting this wire, remove the supplied fuse. Connect to the fuse box or the constant 12V supply to the ignition switch.
NOTE: Always use a fuse within 12 inches of the point you obtain(+)12V. Do not use the supplied fuse in the harness for this purpose. This fuse protects the module itself.

N1/2 BLACK - (-) chassis ground connection: Attach this wire to the kick panel or fire wall. There should be no paint, and no factory grounds. Do not use under dash bracing or steering columns as ground points.

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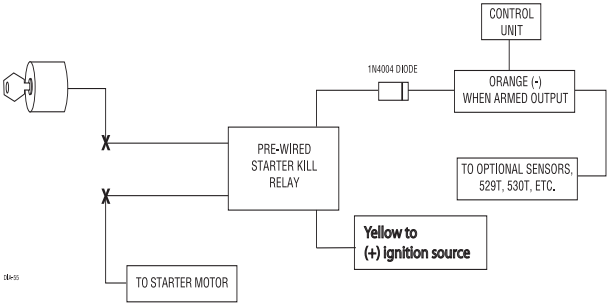
N1/3 RED/WHITE – (-) 200mA auxiliary channel: If programmed for an auxiliary output, this wire will provide a (-) pulse when the lock button is pressed twice within 3 and 7 seconds. This output can be used to control optional accessories (see programming features).
IMPORTANT! Never use this wire to drive anything but a relay or a low-current input! This transistorized output can only supply (-) 200mA and connecting directly to a solenoid, motor or other high current device will cause the module to fall.

N1/4 BLUE – (-) Instant trigger: This input will respond to a negative input with an instant trigger. Connect this wire to a pin switch for those vehicles that do not have hood status on the CAN Bus. (Check this on vehicle application list or on the web site).

N1/5 ORANGE – (-) 500mA ground-when-armed output: This wire supplies a (-) 500mA ground as long as the system is armed. This output ceases as soon as the system is disarmed. This wire controls operation of the pre-wired starter-kill and can be used to control other optional accessories.
NOTE: If connecting the orange wire to control another module, such as 529T or 530T window controller, a 1- amp diode (type 1N4004) will be required. Insert the diode as shown below.



N1/6 WHITE – 200mA (-) light flash output: Connect this wire to the light wire turn or hazard signal of the vehicle. It will supply a (-) 200mA output. If a positive output is needed use this output to drive a relay. This output is to be used only for vehicles that do not have lights signals on the CAN Bus. (Check this on vehicle application list or on the web site).
IMPORTANT! Never use this wire to drive anything but a relay or a low-current input! This transistorized output can only supply (-) 200mA and connecting directly to a high current device will cause the module to fail.

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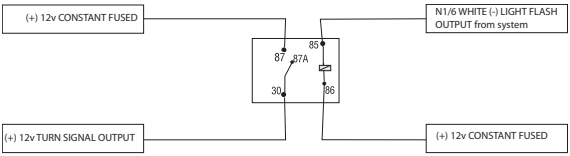
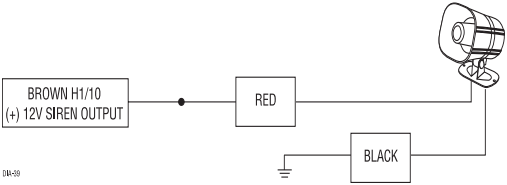


(+) Turn signal relay - Wiring instructions if a positive parking light output is needed

N1/7 BROWN – (+) additional siren output: Connect this wire to the RED one from the siren. Connect the BLACK wire from the siren to (-) chassis ground, preferably at the same point you connect the control module's BLACK ground wire.



N1/8 BLUE/WHITE– (-) Status/shunt input: Remote Start Input - Connect this input to the Remote Start Status Output of a remote start module (if used) when the ignition and sensors need to be bypassed during remote start active status.

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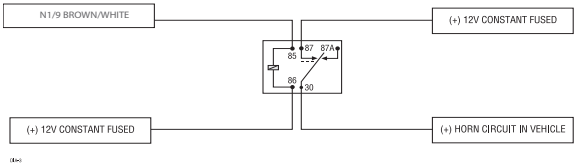
N1/9 BROWN/WHITE – 200mA (-) Horn honk output: This wire supplies a 200mA (-) output that can be used to honk the vehicle's horn. It provides a pulsed output when the security system is armed/disarmed and in trigger sequence or in panic mode. In most vehicles with (-) horn circuits this wire can control the vehicle's horn without adding a relay. If the vehicle has a (+) horn circuit, an optional relay must be used to interface with the vehicle's horn circuit.

IMPORTANT! Never use this wire to drive anything but a relay or a low-current input! This transistorized output can only supply (-) 200mA. Connecting directly to a solenoid, motor or other high current device will cause the module to fail.



CAN harness

CAN harness wiring guide

N7/1	LIGHT GREEN	SW CAN BUS
N7/2	ORANGE/GREEN (BROWN/RED)	CAN BUS (high) FT (HS)
N7/3	ORANGE/BROWN (BROWN/BLACK)	CAN BUS (low) FT (HS)

N7/1 LT GREEN – SW CAN bus (present only in Single Wire CAN Security Systems 330X2)
Connect this wire to the vehicle CAN wire. (Check for colour and location on the vehicle application list or on the website).

N7/2 - ORANGE/GREEN or BROWN/RED – FT CAN Bus High or HS CAN bus High (present only in Fault Tolerant/High Speed CAN Security Systems such as 330X1 for FT and 330X3 for HS, respectively.)
Connect this wire to the vehicle CAN High wire. (Check for colour and location on the vehicle application list or on the website).

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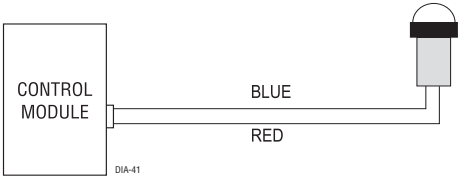
N7/3 ORANGE/BROWN or BROWN/BLACK – FT CAN Bus Low or HS CAN bus Low (present only in Fault Tolerant or High Speed CAN Security Systems such as 330X1 for FT and 330X3 for HS, respectively.) Connect this wire to the vehicle CAN Low wire. (Check for colour and location on the vehicle application list or on the website).

Plug-in harnesses

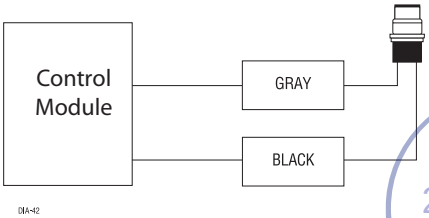
Super bright status LED

The super bright LED operates at (+) 2V DC. Make sure the LED wires are not shorted to ground as the LED will be damaged. Multiple LEDs can be used, but they must be wired in series. The LED can be top-mounted or flush-mounted. If top-loading the LED with a bezel, the LED fits into a 5/16-inch mounting hole. If flush-mounting the LED from the back of a panel, drill a mounting hole using a 17/64-inch drill bit. Make sure you check for clearance prior to drilling the mounting hole.



Valet program switch

The Valet/Program switch should be accessible from the driver's seat. It plugs into the blue port on the side of the unit. The switch is coded for protection so it need not be hidden. Consider how the switch will be used before choosing a mounting location. Check for rear clearance before drilling a 9/32-inch hole and mounting the switch.



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Data port- Bitwriter

The black three-pin port can be used for programming the unit using the Directed Bitwriter, a hand held programming tool. The Bitwriter also allows programming of the features that are not available in the features menus. This plug is also used for connecting the 515ESP Smart Self-Power siren.

Data port – Bootloader

The white four-pin port is use to connect USB Bootloader adaptor and computer to download and flash vehicle specific firmware. A dedicated software has to be install on your computer that can be downloaded free of charge from the Directed Accessories web site www.expresskit.com.

Four-pin sensor harness

Used to connect Ultrasonic sensors

The Ultrasonic sensor is used to provide coverage of a vehicle's interior cabin area. The sensors detect movement inside the vehicle by sensing air disturbance. They should trigger the alarm if a thief has gained access to the interior of your vehicle.

RED wire

The red wire supplies constant power to the Ultrasonic sensor.

BLACK wire

The black wire supplies ground to the Ultrasonic sensor.

BLUE, GREEN wires

The blue and green wires are multiplex inputs. They are both tied to the same zone. If an input of less than 0.8 seconds is supplied to either wire the Warn-Away response will occur. An input longer than 0.8 seconds to either wire will initiate the triggered sequence and report zone 4. This port can be used for sensors such as: glass breakage or tamper sensor, tilt or field disturbance sensor.

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Zones

Zone number	Trigger Type	Input Description
1	Instant Trigger	Bonnet and/or boot switches (detected on the vehicle's CAN bus).
2	Multiplex Input	N/A
3	Two-Stage, progressing from warning to full alarm	Door switch (detected on the vehicle's CAN bus)
4	Multiplex	Ultrasonic sensor. Inputs shorter than 0.8 seconds will trigger Warn Away® response, while inputs longer than 0.8 seconds will instantly trigger full alarm sequence
5	Instant Trigger	Ignition input (detected on the vehicle's CAN bus)
6	Instant Trigger	BLUE N1/4 (-) input

Note: The Warn Away® response does not report on the LED

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Long-term event history

The control module will store the last two triggers in memory that are not erased when the ignition is turned on. This can be helpful for troubleshooting false alarm reports. To access the event history use the following procedure:

1. Turn the ignition switch off and press and hold the VALET® button.
2. While holding the VALET® button turn the ignition On.
3. Release the VALET® button.
4. Within 5 seconds press and release the VALET® button.

The LED will flash in groups indicating the last two zones reported were triggered. For example, if zone 2 and 3 were the last two zones to be triggered the LED will flash two times followed by a pause and then flash three times followed by a pause.

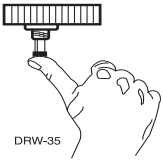
NOTE: The Warn-Away response does not report on the LED.

The Long Term Event History will exit if the ignition is turned off or there is no activity for 60 seconds.

Rapid resume logic

The current state of the alarm will be stored in non-volatile memory. If power is lost and then reconnected, the system will recall the stored state from memory. This applies to all states of the system including arm, disarm, and VALET® mode. If the unit was powered down while triggered, the control unit will continue to sound the siren (honk the horn) after power up until the unit is recognizing the vehicle again. If at least one zone is still active after this, the unit will sound the siren/horn cycle three times, if not disarmed in the meantime. If no zone is active after the vehicle was recognized, the siren will stop after one siren/horn cycle, if not disarmed in the meantime.

NOTE: The unit will not sound the siren (honk the horn) after power up, if the panic mode was active when powered down.



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Multi-level security arming

Multi-Level Security Arming allows the user to select sensors to be active or bypassed when the system is armed. Multi-Level Security Arming can only be accessed if the function is set ON (option 3-2)
By pressing the LOCK button more than once within 3 and 7 seconds of arming the system activates Multi-Level Security Arming. If the LOCK button is pressed again the unit cancels the bypass of the sensors. There are different security levels which can be selected, as follows:

Step	Lock Button pressed	Number of Siren/Horn Chirps	Armed State with Zone Bypassed
1	Once	1 Chirp	No Zone Bypassed
2	Twice	3 Chirps, 3 flashes	Zone 2 & 4 Bypassed
3	If the Lock button is pressed again anytime, the system will return to step 1. The user can repeat the steps, provided the LOCK button is pressed between 3 and 7 seconds and no other buttons are pressed.		

Reset system valet code

This procedure is useful when the system was powered down while triggered and disconnected from the vehicle. When the system is powered up it will sound the siren continuously if the initialisation procedure is not bypassed (vehicle not detected). This procedure is intended for authorized users only who know the randomly generated 4-digit code.

This procedure is identical to the procedure for resetting the code to a default (internal use only) code. This requires that two marked test points on the PCB be accessible after the case has been removed.

1. Disconnect power to the unit.
2. Connect both marked solder points to each other.
3. Reconnect power to the unit while still joining jumper points.
4. System resets to disarmed state and resets system valet code to the factory default code (no code). A new code can then be set with the Bitwriter. All the other settings are also defaults.

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1. Enter 4-digit PIN code by turning ignition on, and then press the valet switch button the same number of times as 1st digit. Turn ignition OFF, and then ON.
2. Press the valet switch button the same number of times as the 2nd digit, and then turn the ignition OFF and then ON.
3. Press the button the same number of times as 3rd digit, turn ignition OFF and then ON.
4. Press button same number of times as 4th digit, then turn the ignition OFF.
   If the code was correct entered the system will disarm.

When the system is armed, if a thief tries to disarm the vehicle by randomly entering codes, the system will lock out after the third failed try (indicated by a triple flash sequence of the LED). The siren will sound for 2 minutes during which the system ignores further attempts to enter the code. Even a correct code entry will be ignored. The siren can be silenced and the system disarmed by pressing the UNLOCK button on the OEM remote.
Note: On some vehicles, the security system can be armed using the ignition key for the driver's door cylinder but can not be disarmed in the same way. The system can only be disarmed using the ignition key for the driver's door cylinder only if remote start status is active.

Feature programming

The feature programming procedure is used to access and change any of the feature settings in the three menus below. The feature settings can be accessed and changed by using one of the following:

- The VALET® button to enter the feature programming procedure.
- Use of Directed Electronics Bitwriter® is recommended. Expanded programming options are only avail able when using the Directed Electronics Bitwriter®.
  NOTE: If Feature Programming Lockout is set to ON, all features will be locked and can ONLY be accessed by using a Bitwriter®.

To enter feature programming procedure:

1. Open a door.
2. Turn the ignition on and then off.
3. Within 5-seconds, press and HOLD the Valet® button. After 3-seconds, the siren/horn will sound once and the LED will flash once to indicate entry into the Menu 1 "Basic User's Features".

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To select the Menu 2 “Advanced User’s Features”, continue to hold the Valet® button until the siren/horn sounds twice and the LED flashes twice. Repeat these steps to select Menu 3 “Installer Features”. Once the desired menu is selected, the user releases the VALET® button and then proceeds to the next step.

4. Within 25 seconds, press and release the VALET button the number of times corresponding to the desired feature listed below. Then press the Valet® once more time and hold. The siren/horn will sound the number of times equal to the feature number selected and the LED will continuously flash the same number with 2 seconds pause until you move further to the next step.

5. While holding the VALET® button, assign the selected feature to a factory button by either pressing: Lock or unlock for 1 chirp setting (LED ON) or pressing Lock/ Unlock again for 2 chirps setting (LED OFF).

Note: For features with more than 2 options pressing Unlock multiple times will toggle through all the rest of the settings and emit the corresponding number of chirps.

Once a feature is programmed:

- Additional features can be programmed.
- The other feature menu can be selected.
- The feature programming procedure can be exited.

Accessing another feature:

- Release, then press and release the VALET® button the number of times to advance from the feature just programmed to the next feature desired.
- Press and **hold** the VALET® button once more.
- The siren/horn will chirp to confirm the feature selected.

Accessing another menu:

- Release, then press and hold the Valet® button.
- After 3 seconds, the unit will advance to the next menu and the siren/horn will sound a number of times equal to the number of the selected menu.

Exiting feature programming :

- Close the opened door
- Turns the ignition On.
- No activity for 15 seconds except when selecting the settings.
- Press and release the VALET® button too many times.

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Menu 1 – Basic user's features

Factory default settings are shown in bold.

Feature Step	One chirp	Two chirps
1-1	ZAP (reset default settings)	-
1-2	**Confirm Chirps ON** (soft chirp on 515ESP)	OFF
1-3	Horn function (full trigger only)	**Siren function - chirp length (20mS**, 30mS, 40mS, 50mS)
1-4	**Siren duration - 30 seconds**	Siren duration - 60 seconds

Menu 2 – Advanced user's features

Factory default settings are shown in bold

Feature Step	One chirp	Two chirps
2-1	**Light confirmation ON**	OFF
2-2	Parking light supervision ON	**Parking light supervision OFF**
2-3	**Light Output** (indicator lights)	Light Output (**turn signal**)
2-4	Automatic re-arming On (60S)	**Automatic re-arming OFF**

Menu 3 - Installer features

Factory default settings are shown in bold

Feature Step	One chirp	Two chirps
3-1	Nuisance Prevention® Circuity (ON)	**Nuisance Prevention® Circuity OFF**
3-2	**Arm function (Arm Only)**	Arm function (Grouped Multi-level Arming-zones 2 & 4, Panic, AUX Ch)
3-5	**Ground When Armed in VALET® (On)**	Ground When Armed in VALET® (Off)

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Bitwriter features

Factory default settings are shown in bold

Feature	Description
Siren duration	1-180 seconds **(30 seconds)**
Feature programming (unlocked)	Feature programming (locked)
	PIN Code Digit 10 to 9 **(Default N/A)** PIN Code Digit 20 to 9 **(Default N/A)** PIN Code Digit 30 to 9 **(Default N/A)** PIN Code Digit 40 to 9 **(Default N/A)**
ZAP	Reset all to default

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Features description

Menu 1 – Basic User's Features

1-1 ZAP (Reset all features to default): This setting will reset all the features to factory default, except the 4-digit PIN code.

1-2 CHIRPS **ON/OFF:** This setting controls the systems arming & disarming chirps.
- Chirps ON (default): The system will emit chirps when arming and disarming.
- Chirps OFF: the system will NOT emit chirps when arming and disarming.

1-3 HORN FUNCTION (FULL ALARM ONLY)/**SIREN FUNCTION** (**20mS**, 30mS, 40mS, and 50mS): This setting controls if the output used by the alarm when fully triggered is the horn or the siren (in the last case different timing options for chirps can be selected).

1-4 SIREN DURATION **30**/60 SECONDS: This setting changes the siren output from 30 seconds to 60 seconds duration when in the panic mode and when the system is fully triggered. The siren duration can also be programmed from 1-180 seconds in 1 second increments using the Bitwriter®.

Menu 2 – Advanced user's features

2-1 LIGHT FLASH CONFIRMATION **ON**/ OFF: This setting control the light flash confirmation of the security system on arming or disarming. When set ON, the security system will control the light confirmation of arming/disarming of the vehicle. When set OFF, the security system will not control the lights confirmation when arming/disarming the vehicle (the original confirmation light of the vehicles will be the only one present on arming/disarming). Note: When (-) input blue/white status shunt is active, the indicator lights flash in case it is used for remote start.

2-2 PARKING LIGHT SUPERVISION ON/**OFF**: When set ON the indicator lights will illuminate for 30 seconds after disarming the system, or turning off the ignition. The indicator lights will be switch OFF during this time if the system is armed again or the ignition becomes ON.

2-3 LIGHT OUTPUT (Indicator lights/**TURN SIGNAL**): This settings control whether the indicator lights or turn signal will be used while the system is triggered or as confirmation lights.

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2-4 AUTOMATIC RE-ARMING **OFF**/ON (60S): This settings control whether the system will re-arm if no door was opened after 60 seconds or not. This will not include locking of the doors or arming the original security system (if present). When set ON, the system will arm only if Lock button is pressed. This option is ignored if the vehicle has automatic rearming feature ON from the factory.

Menu #3 – Installer features

3-1 NUISANCE PREVENTION® CIRCUITRY (NPC®) ON/**OFF**: These settings control the number of times a sensor can trigger the system within a given time period.

•NPC ON : In this setting any source (sensor or trunk switch) that triggers more than 3 times within 1 hour period will be bypassed for a minimum of 1 hour. If within that 1 hour the systems see's the same source (sensor or trunk switch) trigger again it will not activate the siren/horn and will restart the 1 hour timer.

NOTE: Door switches and the ignition switch are exempt to the description above.

•NPC **OFF**: (Default) In this setting the sensors will trigger repeatedly until the system is disarmed.

3-2 ARM FUNCTION **OFF-ARM ONLY**/ (Grouped MULTI-LEVEL ARMING/PANIC/AUX CH): These settings change the system ability to activate multi-level arming, panic or auxiliary channel while pressing the Lock button.

•When set ARM ONLY, the system will be re-armed at successive presses on lock button.

•When set PANIC, the system will switch on panic function while the user press lock button for the second time. Panic will cease when arming/disarming with original remote.

•When programmed on AUX CH, the system will activate the auxiliary channel when pressing the Lock button for the second time.

•When programmed on Multi-level Arming, the system will activate the Multi-level Arming function when pressing the Lock button for the second time.

NOTE: The second press must be between 3 to 7 seconds from first press.

Grouped multi-level arming

After arming, press the LOCK button again. The indicator lights or turn signal will flash 3 times, the siren/horn will chirp 3 times and all sensor warn-away and full alarm zones will be bypassed. All remaining zones are still active (door, hood, trunk, and ignition).

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AUX channel

After arming, press the LOCK button again. The security system will activate the auxiliary output (N1/3) and will start bypass all sensor zones for 30 seconds. During the first 3 seconds the security system will monitor the trunk status and/or N1/8 Blue/White– (-) Status input: If either input is active, the security system will bypass all sensors and the trunk when open, and flash the indicator lights. After the trunk is closed the sensors will be bypassed for another 20 seconds.

WARNING! If the AUX CHANNEL option is used for Remote Start activation the following must be taken into consideration:

- The Remote start status output of the remote start module has to be connected to the N1/8 Blue/White - (-) Status input in order for ignition and sensors to be bypassed during remote start.

After the Status input is deactivated, the system will bypass sensors for another 20 seconds and the ignition for 5 seconds.

- During the remote start the module will flash the lights.
- During the remote start, the unit will ignore any activation of the OEM remote start (if present) from the OEM transmitter.
- In some vehicles such as Honda and Acura, the keyless entry remotes are inactive while the vehicle is running. You have to use the key to enter the running vehicle if the system is install one of those vehicle. Turning the key in the key cylinder will disarm the system. You can not shut down the remote start with the OEM transmitter either.

3-5 GROUND WHEN ARMED IN VALET® **ON**/OFF: Provides On/Off programming for the Ground When Armed wire output when locking the vehicle in VALET® mode.

Bitwriter Features

SIREN DURATION (1-180S): The Bitwriter® can adjust the siren duration setting anywhere from 1 second to 180 seconds in length.

FEATURE PROGRAMMING (UNLOCKED/LOCKED):

•**UNLOCKED** (default): In this setting the features can be changed using the Valet switch and the vehicle OEM transmitter.

•LOCKED: In this setting the features can not be changed using the Valet switch and the vehicle OEM transmitter. If LOCKED, the unit will emit 1 long chirp when trying to enter feature programming.

ZAP FUNCTION This button will reset all the features to default.

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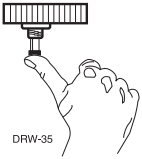
VALET® Mode

To prevent the system from arming, the system can be determined to enter in VALET® mode. To enter or exit VALET® mode, use the VALET® switch as follows:

Turn the Ignition On, then Off.

DRW-34

Within 10 seconds, press and release the VALET® button. The LED will come On if you have entered VALET® mode. To exit VALET® mode, repeat the steps above. The LED will turn Off when VALET® mode is exited.


DRW-35

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Special Features

Initialisation:

The Unit has an initialisation procedure that verifies that the unit is properly connected to the CAN bus. You have to connect the unit to the CAN bus and then power it up. It has to pass the initialisation procedure to function normally. After connecting the CAN bus and powering up, switch On the ignition for the procedure to be completed. Each time power is disconnected the initialisation procedure starts again.

The LED will visually report the status of the initialisation procedure.

LED Flashes	**Description**
LED blinks three digits with 2 seconds break between digits	Firmware revision
LED ON for 5 seconds and stops	Initialisation failed. Remove power and retry
LED blinks shortly every 3 seconds	Hardware initialisation passed, waiting for ignition to be turned ON
LED blinking rapidly	Power up initialisation in process
LED ON for 2.5 seconds, then OFF for 2.5 seconds, then blinks shortly a number and stops	- error 1 = vehicle not recognized - error 2= newest firmware for the vehicle software (check the website for downloading new firmware)
LED OFF immediately after blinking rapidly	Initialisation passed and it enter normal operation

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Vehicle application charts

The following charts lists all of the vehicles covered by each of the platforms as of 01-2008. Firmware versions for various vehicle platforms are available through the Directed Vehicle Interface Program (VIP) & Bootloader.

Note: Please visit www.xpreskit.com for online VIP detailed installation instructions and troubleshooting guide.

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330X Vehicle Application Chart - Fault Tolerant (a)

Make	Brand	Year	Operates Parking Lights	Hood Switch available through CAN-BUS	VIN Code (Note*1)
VW	Caddy	2005 -2007	•	•	2K
	Touran	2003 -2007	•	•	1T
	Passat	1996 - 2005		•	3B
	New Passat	2005 -2007	•	•	3C
	Jetta	2005 -2007	•	•	1K
	Touareg	2003 -2007	•	•	7L
	EOS	2006 -2007	•	•	1F
	Polo Mark IV	2002 - 2005	•	•	9N
	Polo Mark IVF	2005 -2007	• (only Turn Signal)	•	9N3
	Transporter	2004 -2007	• (only Turn Signal)	•	N/A
Porsche	Cayenne	2003 -2007	•	•	9P
Seat	Ibiza		• (only Turn Signal)		
	Altea	2004 -2007	•	•	5P
	Toledo	2004 -2007	•	•	5P
	Leon	1999 -2007		•	1M
	New Leon	?	•	•	1P
	Cordoba	2002 -2007	• (only Turn Signal)	•	N/A
Skoda	Octavia Tour	1996 -2007		•	1U
	Octavia II	2004 -2007	•	•	1Z
	Superb	2002-2007		•	3U
	Fabia	1999 -2007		•	N/A
	New Fabia	2007	• (only Turn Signal)	•	N/A
	Roomster	2006 -2007	• (only Turn Signal)	•	N/A
Audi	A3	2004 -2007	•	•	8P
	A4	2002 -2007	•	•	8E
	A4 Cabrio	2007	•	•	8H
	A6	2004 -2007	•	•	4F
	A6 Allroad	2007	•	•	4F
	Q7	2006 -2007	•	•	4L
	TT	2007	•	•	8J
BMW	1 Series	2004 -2007			E81/E87
	3 Series				
	5 Series	2004 -2007			E60/E61
	Idea	2004 -2007			N/A

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330X Vehicle Application Chart - Fault Tolerant (b)

Fiat	Grande Punto	2005 -2007			N/A
	Punto	2003 -2007			N/A
	Stilo	2001 -2007			N/A
	Croma	2005 -2007			N/A
	Ducato	2006 -2007			N/A
	Doblo	2001 -2007			N/A
Alfa	159	2005 -2007			N/A
	Brera	2005 -2007			N/A
	147	2000 -2007			N/A
Lancia	Ypsilon	2003 -2007			N/A
	Musa	2004 -2007			N/A
Peugeot	307	2001 -2007			N/A
	407	2004 -2007			N/A
Chrysler	300C	2005 -2007	•		C3K/C3J
	Sebring	2006 -2008	•		C3L
	Aspen	2007	•		A8H
	Pt Cruiser	2001 -2007			A4F
Dodge	Charger	2006 -2007	•		B3K
	Magnum	2005 -2007	•		D4F
	Durango	2004 -2007	•		D4H
	Dakota	2006 -2007			D7H
	RAM	2006 -2007			D7H
	Avenger	2006-2008			B3L
	Caliber	2006 -2007			N/A
Jeep	Commander	2006 -2007	•		J8H
	Grand Cherokee	2005 -2007	•		J4H
	Compass	2006 -2007			J8F
Mercedes	A Classe	2004 -2007	•		W169
	B Classe	2005 -2007	•		W245
	C Classe	2000 -2007	•		W203
	E Classe	2003 -2007	•		W211

NOTE*1

For Audi/Seat/Skoda/Porsche/VW the two digits are the 7th and the 8th. For example: Audi A6 has xxxxxx4F.

For Chrysler/Dodge/Jeep the digits are the 2nd, the 3rd and the 4th. For example: Dodge Charger has xB3K.

For Mercedes the digits are the 2nd, the 5th, 6th and 7th. For example: Mercedes C Classe has Wxx203.

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330X Vehicle Application Chart - Single Wire

Make	Brand	Year	Operates Parking Lights	Hood Switch available through CAN-BUS	VIN Code (Note*3)
Honda	Accord	2004 -2007	•	•	N/A
	Civic	2006 -2007	•	• note1	N/A
	CR-V	2006 -2007	•	•	N/A
	Ridgeline	2006 -2007	•	•	N/A
	Odyssey	2006 -2007	•	•	N/A
Acura	TL	2006 -2007	•	•	N/A
	TSX	2006 -2007	•	•	N/A
	CSX	2006 -2007		•	N/A
	RSX	2006 -2007	•	•	N/A
Chevrolet	Impala	2006 -2007		•	1W
	Monte Carlo	2006 -2007		•	1W
	Tahoe	2006 -2007		•	NF
	Avalanche	2006 -2007		•	NF
	Equinox	2006 -2007		•	ND
	Suburban	2006 -2007		•	NF
	Malibu	2006 -2007		• note 2	1Z
	HHR	2006 -2007		• note 2	ND
	Cobalt	2006 -2007		• note 2	1A
	Silverado	2006 -2007		•	CE
	Captiva	2006 -2007			1C
GMC	Sierra	2006 -2007		•	TE
	Yukon	2006 -2007		•	KF
Cadillac	Escalade	2006 -2007		•	YF
	STS	2006 -2007		•	6D
	DTS	2006 -2007		•	6K
	SRX	2007		•	YE
Buick	Lucerne	2006 -2007		•	4H
Pontiac	G6	2006 -2007		• note 2	2Z
	Solstice	2006 -2007		• note 2	2M
	Torrent	2006 -2007		• note 2	N/A
Saturn	Aura	2006 -2007		• note 2	8Z
	Sky	2006 -2007		• note 2	8M
	Outlook	2006 -2007		• note 2	ZE
Opel	Astra H	2006 -2007	•	•	
	Zafira	2006 -2007	•	•	
	Vectra C	2004 -2007	•	•	
	Corsa D	2006 -2007			

NOTE*1	Only for cars having OEM security system
NOTE*2	Only for cars having OEM remote start
NOTE*3	For GM the digits are the 3rd and the 4th: For example Chevrolet Malibu has xx1Z.

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330X Vehicle Application Chart - High Speed

Make	Brand	Year	Operates Parking Lights	Hood Switch available through CAN BUS	VIN Code (Note*1)
Renault	Clio III	2005 -2007	•		N/A
Nissan	Pathfinder	2005 -2007	•		N/A
	Navara	2005 -2007	•		N/A
	Micra	2002 -2007			N/A
Infiniti	G35x	2003 -2007		•	N/A
	M35x	2006 -2007		•	N/A
Ford (EU)	Fiesta	2006 -2007			N/A
	Mondeo				
	Focus	2006 -2007			N/A
Mazda	3	2006 -2007			N/A
Dodge	Nitro	2007-2008			?
Jeep	Wrangler	2007-2008			

NOTE*1 For Chrysler/Dodge/Jeep the digits are the 2nd, the 3rd and the 4th. For example: Dodge Charger has xB3K.

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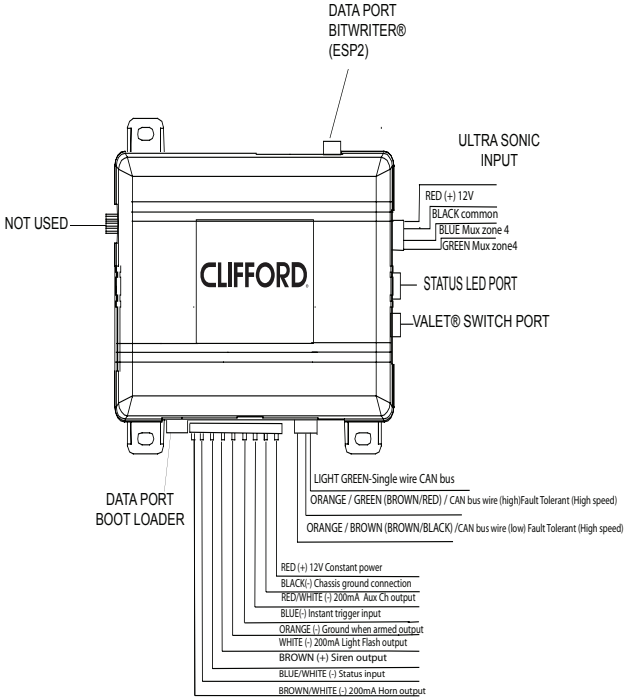

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CLIFFORD®

Vehicle Security System

Model 330X1 /330X2 /330X3

Owner's Guide

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Limited consumer warranty

For a period of one calendar year from the date of purchase of this auto-security device, Directed Electronics, (Directed) promises to the ORIGINAL PURCHASER to repair or replace (at Directed's election) with a comparable reconditioned model, any Directed unit (hereafter the "unit"), excluding without limitation the siren, the remote transmitters, the associated sensors and accessories which proves to be defective in workmanship or material under reasonable use, provided the following conditions (herein "Conditions") are met: the unit was purchased from an authorized Directed dealer; the unit was professionally installed and serviced by an authorized Directed dealer; the unit will be professionally reinstalled in the vehicle in which it was originally installed by an authorized Directed dealer; and the unit is returned to Directed, shipping prepaid with a legible copy of the bill of sale or other dated proof of purchase bearing the following information: consumer's name, telephone number and address; the authorized dealer's name, telephone number and address; complete product description, including accessories; the year, make and model of the vehicle; vehicle license number and vehicle identification number. ALL UNITS RECEIVED BY DIRECTED FOR WARRANTY REPAIR WITHOUT PROOF OF PURCHASE WILL BE DENIED.

After the first calendar year, from the date of purchase of the unit, Directed, promises to the ORIGINAL PURCHASER to repair or replace, (at Directed's sole and absolute discretion) with a comparable reconditioned model any unit which proves to be defective in workmanship or material under reasonable use FOR A CHARGE OF $45.00, SO LONG AS THE AFOREMENTIONED CONDITIONS HAVE BEEN MET. The unit must be returned to Directed, postage pre-paid, along with a legible copy of the receipt (including the information below) and a cashier's check or money order made payable to Directed Electronics in the amount of $45.00.

This warranty is non-transferable and is automatically void if the unit has been modified or used in a manner contrary to its intended purpose, or if the unit has been damaged by accident, unreasonable use, neglect, improper service or other causes not arising out of defects in materials or construction. This warranty does not cover damage to the unit caused by installation or removal of the unit. This warranty does not cover labor costs for the removal, diagnosis, troubleshooting or reinstallation of the unit. For service on an out-of-warranty product a flat rate fee by model is charged. Contact your authorized dealer to obtain the service charge for your unit.

These security systems are a deterrent against possible theft. Directed is not offering a guarantee or insuring against vandalism, damage or theft of the automobile or its parts or contents and Directed hereby disclaims any liability whatsoever, including without limitation, liability for damage, vandalism and/or theft of the vehicle, parts and/or its contents. Directed neither assumes nor authorizes any person or entity to assume for it any duty, obligation or liability in connection with its products. Directed disclaims and has absolutely no liability for any and all acts of third parties, including its authorized dealers or installers. In the event of a claim or a dispute involving Directed or its subsidiary, the venue shall be in San Diego, California.

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California state laws and applicable federal law shall apply and govern the dispute.

TO THE MAXIMUM EXTENT ALLOWED BY LAW, ALL WARRANTIES ARE EXCLUDED, INCLUDING BUT NOT LIMITED TO EXPRESS WARRANTY, IMPLIED WARRANTY, WARRANTY OF MERCHANTABILITY AND/OR ANY AND ALL WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND/OR ANY AND ALL WARRANTY OF NON-INFRINGEMENT OF PATENTS, IN THE UNITED STATES OF AMERICA AND/OR ABROAD. THE MAXIMUM RECOVERY UNDER ANY CLAIM AGAINST DIRECTED SHALL BE STRICTLY LIMITED TO THE AUTHORIZED DIRECTED DEALER'S PURCHASE PRICE OF THE UNIT. DIRECTED SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO ANY CONSEQUENTIAL DAMAGES, INCIDENTAL DAMAGES, TOWING, REPAIR, REPLACEMENT, DAMAGE TO VEHICLE, DAMAGES FOR LOSS OF TIME, LOSS OF EARNINGS, COMMERCIAL LOSS, LOSS OF ECONOMIC OPPORTUNITY AND THE LIKE. NOTWITHSTANDING THE ABOVE, MANUFACTURER DOES OFFER A LIMITED WARRANTY TO REPLACE OR REPAIR THE UNIT, SO LONG AS THE CONDITIONS ARE MET AS DESCRIBED HEREIN. Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty is void if the unit has not been purchased from Directed, or an authorized Directed dealer, or if the unit has been damaged by accident, unreasonable use, negligence, Acts of God, neglect, improper service, or other causes not arising out of defect in materials or construction. This warranty is only valid for sale of product(s) within the United States of America. Product(s) sold outside of the United States of America are sold "AS-IS," and shall have NO WARRANTY, express or implied.

This product warranty is automatically void if its date code or serial number is defaced, missing, or altered. This warranty will not be valid unless you have completed the warranty card and mailed it to Directed, within 10 days after purchase to the address listed on the warranty registration card.

Make sure you have all of the following information from your authorized Directed dealer: A clear copy of the sales receipt, showing the following:

o Date of purchase

o Your full name and address

o Authorized dealer's company name and address

o Type of system installed

o Year, make, model and color of the automobile

o Automobile license number

o Vehicle identification number

o All security options installed on automobile

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Trademarks and copyrights

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What is included

- Control module and harness
- Ultrasonic sensor (on-board the control module)
- Valet® switch
- Pre-wired Blue status LED
- Failsafe® Starter Kill relay (if equipped)
- 515 ESP Smart Self-Power siren

Important information

Congratulations on the purchase of your security system. Due to the complexity of this system, it must be installed by an authorized dealer only. Installation of this product by anyone other than an authorized dealer voids the warranty. All dealers are provided with a preprinted dealer certificate to verify that they are authorized.

By carefully reading this Owner's Guide prior to using your system, you will maximize the use of this system and its features.

You can print additional or replacement copies of this manual by accessing the Directed web site at www.xpressvip.com.

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Using your system

Arming your system

You can activate, or arm, the system by locking the doors with your factory keyless entry transmitter. When the system arms, you will hear a short siren sound and see the indicator lights flash once.

While the system is armed, the status LED will flash about twice a second, to indicate that the system is actively protecting your vehicle.

If you hear a second short siren sound after arming, and see the status LED flashing in groups, this second short siren sound, a Bypass Notification, means a zone such as a door, boot or bonnet is open. Refer to the Diagnostics section for more information.

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Armed protection

When armed, your vehicle is protected as follows:

- If a door is opened, the system will immediately start sounding the siren and flashing the indicator lights.
- By turning on the ignition the siren pulses and the indicator lights flash. Three seconds later the siren sound changes to a continuous blast. This progressive response gives you time to disarm the system using the Valet switch.
- If equipped, the starter interrupt prevents the vehicle's starter from cranking.
- If programmed, supported by Ultrasonic sensor

note: The vehicle may already be equipped with a starter interrupt relay from the factory.

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Multi-level security arming

(If programmed **ON**)

Multi-Level Security Arming allows the user to select sensors to be active or bypassed when the system is armed. Multi-Level Security Arming can only be accessed if the function is set ON (option 3-2)

By pressing the LOCK button more than one-time within 3 to 7 seconds of arming, activates Multi-Level Security Arming. If the LOCK button is pressed again the unit cancels bypassing the sensors. The different security levels options are as follows:

Step	Lock Button pressed	Number of Siren Chirps	Armed State with Zone Bypassed
1	Once	1 Chirp	No Zone Bypassed
2	Twice	3 Chirps, 3 flashes	Zone 2 & 4 Bypassed
3	If the Lock button is pressed again anytime, the system will return to step 1. The user can repeat the steps provided the LOCK button is pressed between 3 and 7 seconds and no other buttons are pressed.		

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Disarming

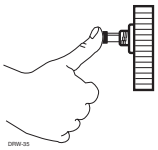
To disarm the system, unlock the doors using your factory keyless transmitter. The siren will sound twice, and the indicator lights will flash twice. If the siren sounds four or five times when disarming, this is called Tamper Alert. Refer to the Diagnostics section of this guide.

Disarming without a transmitter

This feature allows you to override the system without the transmitter should it be lost, damaged or disabled. To do this, you must have the vehicle's ignition key and know where the Valet® switch is located.

1. Turn the ignition to the "run" position.

2. Enter 4-digit PIN code by turning the ignition On.



3. Press the Valet® button the same number of times as the 1st digit.
4. Turn the ignition Off, and On.

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5. Press the button the same number of times as 2nd digit, the turn the ignition Off and On.
6. Press the button same number of times as 3rd digit, then turn the ignition Off and On.
7. Press the button same number of times as 4th digit, then turn the ignition OFF.

If the code was correctly entered the system will disarm.

When armed, if a thief were to try to disarm the vehicle by entering codes at random, the system will lock out after the third failed try (indicated by a triple flash sequence of the LED), and then sounding the siren for two minutes.

Attempts to enter the code are ignored, even a correct code entry is ignored.

- Press UNLOCK on the remote to silence the siren and disarm.

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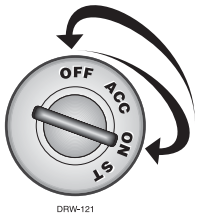
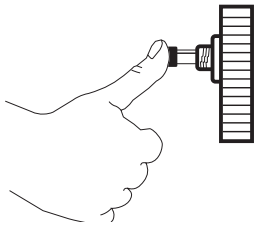
Valet® mode

You can prevent your system from arming, by using Valet® Mode. This is very useful when washing the vehicle or having it serviced. In Valet® Mode, the system will not arm, even with the transmitter, but all convenience functions (door locks, boot release, etc.) will work normally.

To enter or exit Valet® Mode with the Valet® switch:





1. Turn the ignition to ON position, and then turn it to the OFF position.
2. Press and release the Valet® button within 10 seconds.
3. The status LED will light steady if you have entered Valet® Mode.
4. To exit Valet® Mode, repeat the steps above. The LED will turn off when exiting Valet® Mode.

Panic mode

(If programmed **On**, above steps 3-4)

If you are threatened in or near your vehicle, you can attract attention by triggering the system with your transmitter! If your factory keyless transmitter does not have a panic button, this system can be programmed to enable a panic feature.

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If enabled, Press the lock button on your factory keyless transmitter two-times, and then press it again within 3 to 7 seconds to enter Panic Mode. The siren will sound and the indicator lights will flash for 30 seconds. To stop Panic Mode at any time, press the unlock button on your factory transmitter.

> *note: The system can also be programmed so that pressing the lock button more than once within three and five seconds will activate an optional accessory. If the unit is programmed to activate an optional accessory, panic mode cannot be activated.*

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Nuisance Prevention Circuitry®

Your system has Nuisance Prevention Circuitry® (NPC®). This circuitry prevents annoying repetitive trigger sequences due to faulty door pin switches or environmental conditions such as thunder, jackhammers, airport noise, etc.

Here's how it works:

The alarm triggers ten times. Each time, the same sensor or switch is triggering the alarm. The ten triggers are within 60 minutes of each other. Your system will interpret this pattern of triggers as false alarms. After the tenth trigger, your system ignores, or bypasses that sensor or switch (along with any other sensors or switches sharing the same zone) for 60 minutes.

If the bypassed sensor tries to trigger the system while it is being bypassed, the 60-minute bypass period will start over. This ensures that a sensor that is continuously triggering will remain bypassed.

Doors are covered differently: If the alarm is triggered by an open door for ten full cycles (one-and-one-half minutes), the doors will be bypassed until the trigger ceases.

> *note: Arming and disarming the system does not reset this function! The only way to reset a bypassed zone is for it to not trigger for 60 minutes, or to turn on the ignition. If testing your system, it is important to remember that this circuitry can cause zones to be bypassed and appear to stop working. If five chirps are heard when disarming, false alarm protection has engaged. If you wish to clear the memory, turn the ignition key on.*

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Diagnostics

The microprocessor at the heart of your system is constantly monitoring all of the switches and sensors connected to it. It detects any faulty switches and sensors and prevents them from disabling the entire system. The microprocessor will also record and report any triggers that occurred during your absence.

Arming diagnostics

If the system is armed with an input active (door open, sensor triggering, etc.) the unit will chirp once when arming and then one more time a few seconds later. This is called bypass notification.

> ***note:*** *Bypass notification will not occur if chirps have been programmed OFF.*

The system will ignore the input that was active when it was armed until it goes away. Three seconds later it will monitor that input normally.

Disarming diagnostics

When the siren sounds additional chirps when disarming, tamper alert is active. If four chirps are heard when disarming, the system was triggered in your absence. If five chirps are heard, a zone was triggered so many times that false alarm prevention circuitry has bypassed that zone. In either case, the status LED will indicate which zone was involved (see Table of Zones section). The system will retain this information in its memory, and chirp four or five times each time it is disarmed, until the next time the ignition key is turned on.

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Table of zones

The zone number is the number of LED flashes used by the system to identify that input. The standard input assignments are listed below.

ZONE (Number LED Flashes)	DESCRIPTION
1	Boot /bonnet opening
2	N/A
3	Door switch trigger
4	Ultrasonic sensor
5	Ignition input
6	Extra switch input (if installed)

The LED will not report if the Warn Away response is triggered.

Rapid resume logic

This system will store its current state to non-volatile memory. If power is lost and then reconnected the system will recall the stored state from memory. This means if the unit is in Valet® Mode and the battery is disconnected for any reason, such as servicing the car, when the battery is reconnected the unit will still be in Valet® Mode. This applies to all states of the system including arm, disarm, and Valet® Mode.

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Glossary of terms

Control Module: The "brain" of your system. Usually hidden underneath the dash area of the vehicle. It houses the microprocessor which monitors your vehicle and controls all of the alarm's functions.

Failsafe® Starter Kill (if equipped)**:** An automatic switch controlled by the security system which prevents the vehicle's starter from cranking whenever the system is armed. The vehicle is never prevented from cranking when the system is disarmed, in Valet® Mode, or should the starter kill switch itself fail. Your system is ready for this feature, however installation of this feature may require additional labor.

Input: Any physical connection to the security system. An input can be provided through a sensor, pinswitch or by existing systems in the vehicle, such as ignition or courtesy lights.

LED: The LED indicates the status of your system. It is also used to report triggers and faults in the system or sensors.

Valet® Switch: A small push-button switch mounted somewhere in the vehicle. The switch is used to override the alarm when a transmitter is lost or damaged, or to put it into Valet® Mode.

Warn Away® Response: The Warn Away® Response will work if a dual zone microwave was installed and the sensor is capable of detecting it.

Zone: A zone is a separate input that the alarm can recognize as unique. Each input to the system is connected to a particular zone. Often, two or more inputs may share the same zone.

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Notes

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Cut along dotted line and fold for a quick and easy reference to keep in your purse or wallet.

QUICK REFERENCE GUIDE:

To arm the system

- You can arm the system by locking the doors with your factory keyless entry transmitter. When the system arms, your will hear a short chirp, and see the indicator lights flash once.

To disarm the system

- To disarm the system, unlock the doors using your factory keyless transmitter. You will hear two chirps, and the indicator lights will flash twice.

Disarming without a transmitter

- Turn On the ignition.
  1. Enter 4-digit PIN code by turning the ignition On, press the button the same number of times as the 1st digit.
  2. Turn the ignition Off, and On.
  3. Press the button same number of times as 2nd digit, turn the ignition Off and On.
  4. Press the button same number of times as 3nd digit, then turn ignition Off and On.
  5. Press button same number of times as 4nd digit, then turn the ignition OFF.

If the code was correctly entered the system will disarm.

To enter or exit Valet® Mode

- Turn ignition to “run” position, then turn to “Off” position. Press and release the Valet®switch within 10 seconds. The status LED will light solid if you are entering Valet® Mode, and it will go out when exiting Valet® Mode.

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The company behind this system is Directed Electronics, Inc.

Since its inception, Directed Electronics has had one purpose, to provide consumers with the finest vehicle security and car stereo products and accessories available. The recipient of nearly 100 patents and Innovations Awards in the field of advanced electronic technology, DIRECTED is ISO 9001 registered.

Quality Directed Electronics products are sold and serviced throughout North America and around the world.

Call **(800) 274-0200** for more information about our products and services.

ISO 9001

Directed Electronics is an ISO 9001 registered company.

Directed Electronics is committed to delivering world class quality products and services that excite and delight our customers.

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ELECTRONICS

Directed Electronics, Inc.
Vista, CA 92081
www.directed.com

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G330X 2008-02

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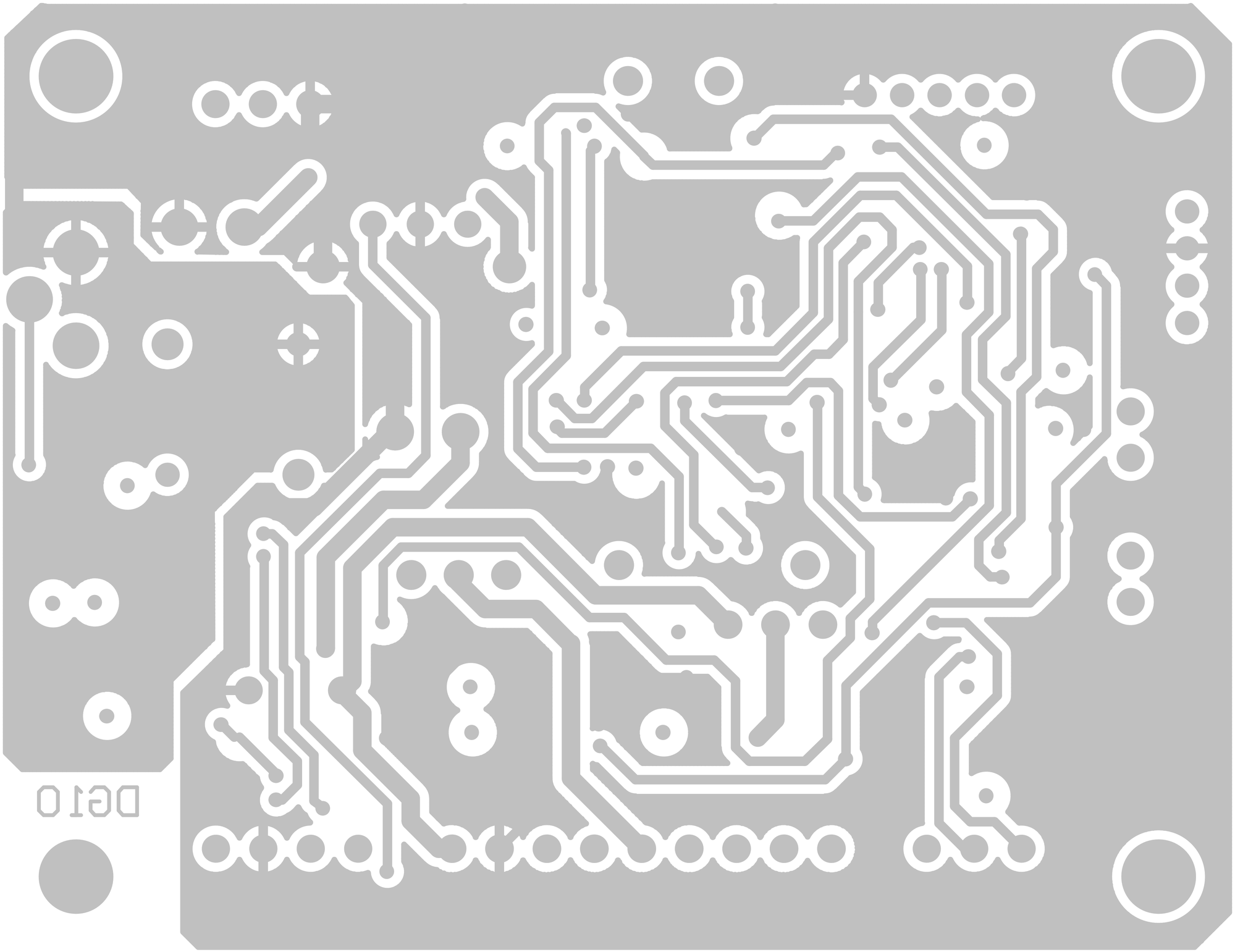

BOTTOM OVERLAY

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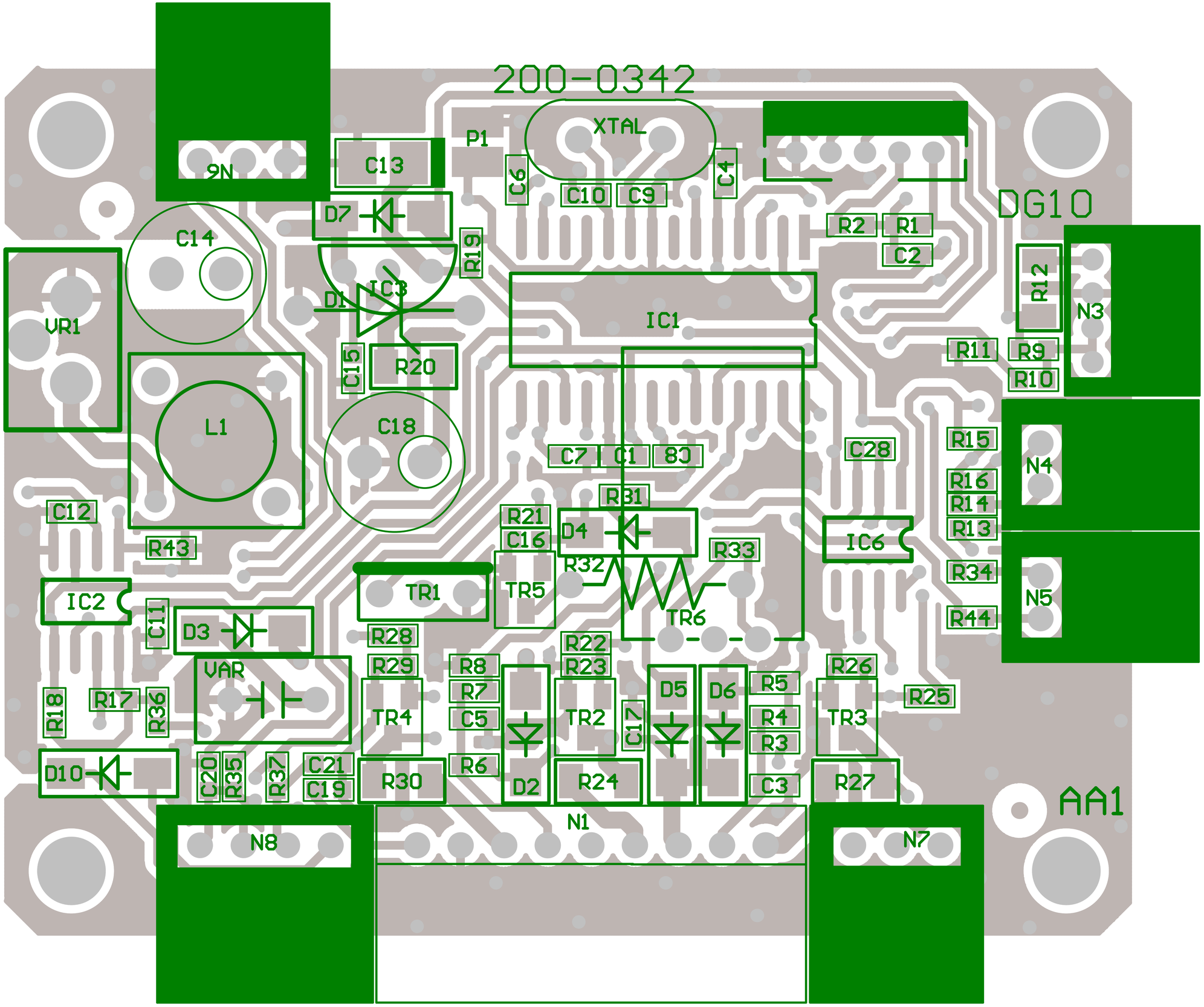
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XTAL
C6
C10
C9
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C14
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IC1
R12
N3
VR1
C15
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R11
R9
R10
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C8
C28
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N4
R16
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C12
R31
R21
C16
D4
R33
IC6
R43
R32
TR1
TR5
TR6
R34
N5
IC2
C11
D3
R28
R22
R44
R29
R8
R23
R26
VAR
R7
D5
D6
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R25
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R36
TR4
C5
TR2
C17
R4
TR3
R3
D10
C20
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N7
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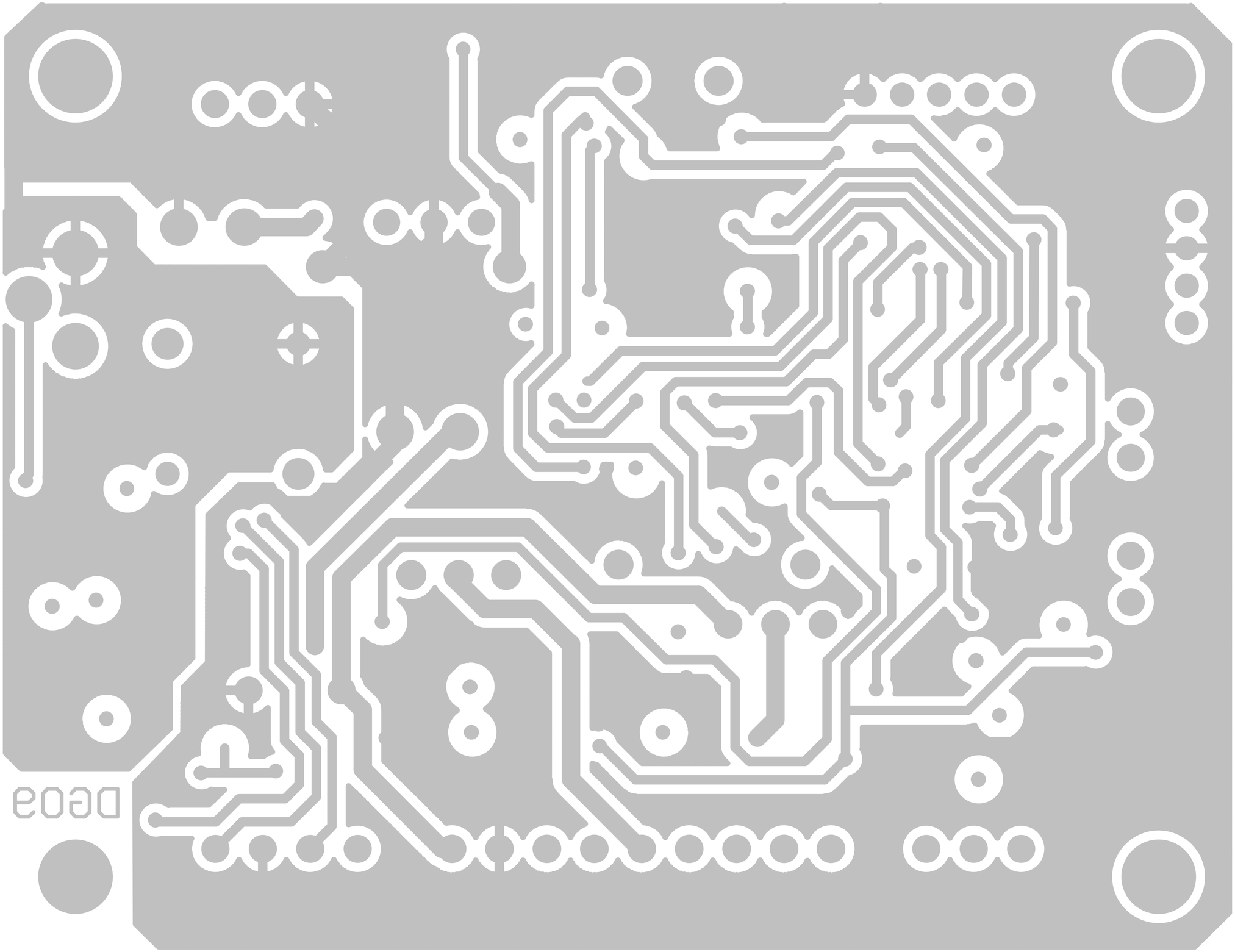

BOTTOM OVERLAY

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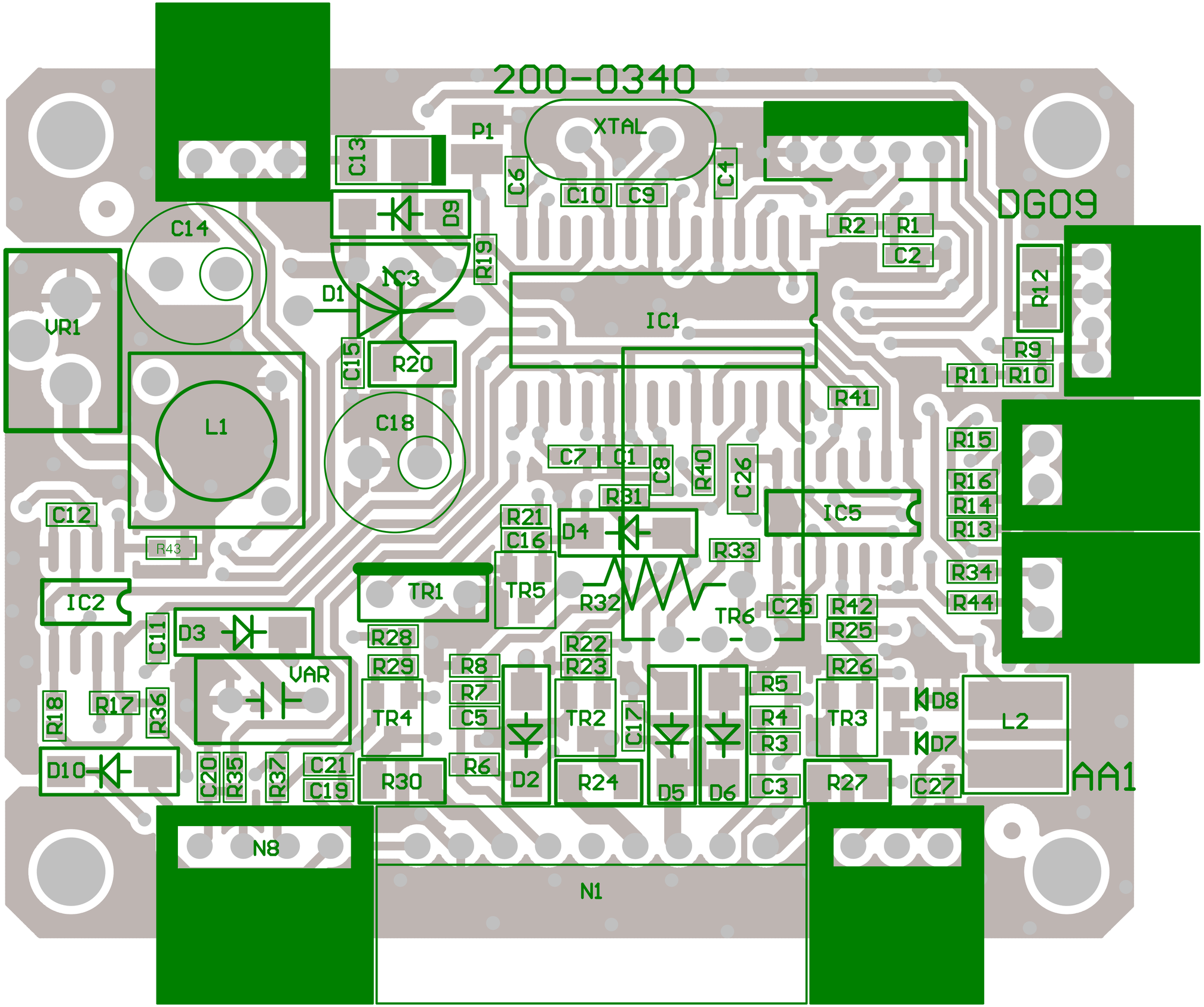
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R43
R34
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TR1
TR5
R32
TR6
C25
R42
R25
IC2
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C27
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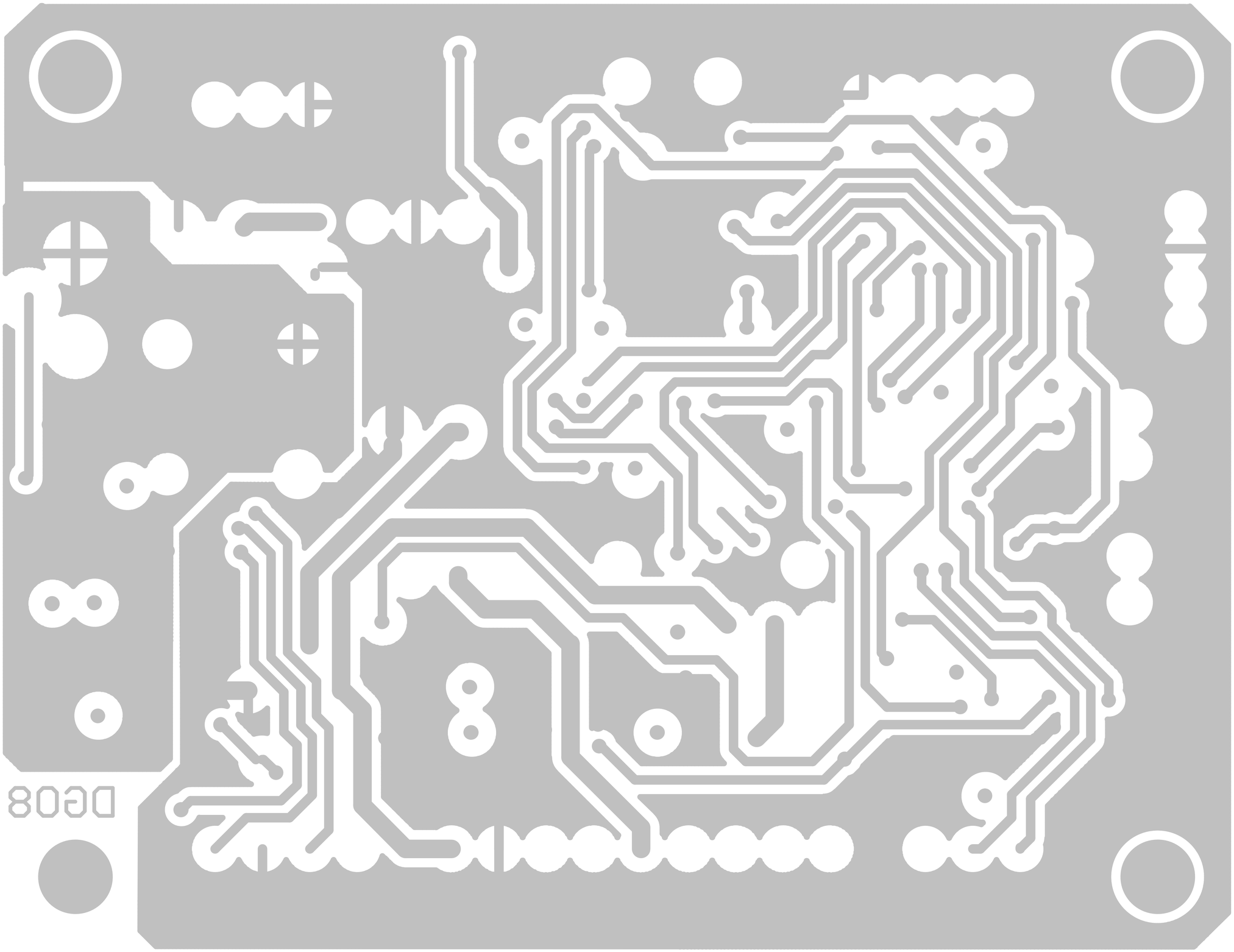
TOP OVERLAY
COMPONENT SIDE



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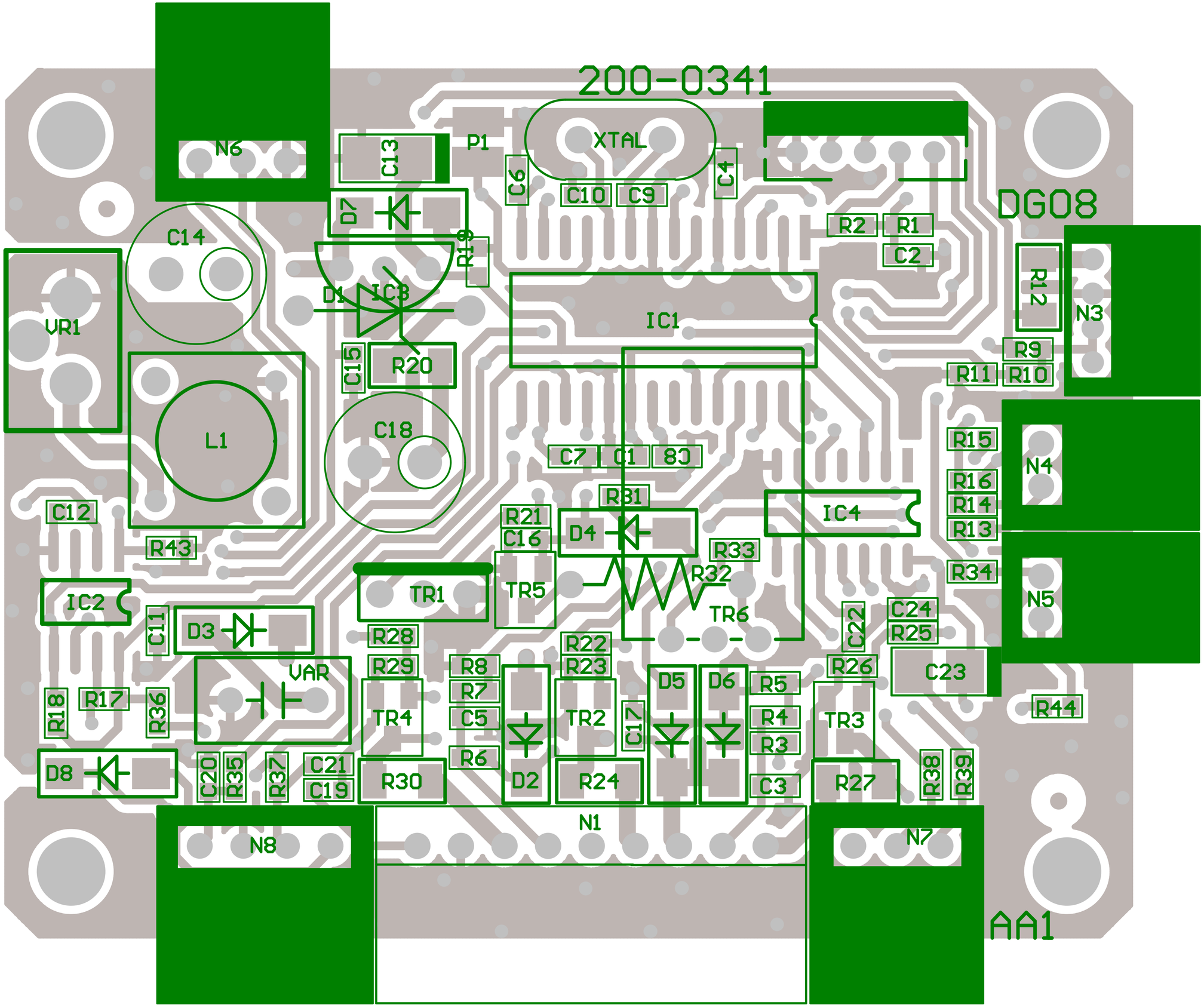
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R38
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N1
N8
N7
AA1
TOP OVERLAY
COMPONENT SIDE

Assy Tree for: 014-0069

Printed 8/20/2007

014-0069

FGI,BD,CLIFFORD 330X3 CANBUS HS SECURITY UPGRADE SYSTEM, UK, THATCHAM

Type	CAT	DEI P/N	330X3
Revision	X9	Brand	04
Status	U	M/C l/w/h, Qty	_____x_____x_____, ____
Date	1/30/2007	Unit Weight	_____lbs, M/C_____lbs
By	GW	Barcode	0 93207 05451 8

<<PLEASE PACKAGE INSTALLATION GUIDES TOGETHER IN SEPARATE MASTER CARTON IN SAME SHIPMENT WITH KITS>>

NOTE: M/C CONTAINS INNER PACKS WITH 6-GIFT BOXES EACH. EACH INNER PACK HAS ITS OWN SHIPPING LABEL

REV A: -D/C _____,____/_____/_____

#7043

Item	P/N	Qty	Rev	DEI P/N	Title	Detail	Vend-P/N
Top	014-0069		X9	330X3	FGI,BD,CLIFFORD 330X3 CANBUS HS SECURITY UPGRADE SYSTEM, UK, THATCHAM		330X3
1	100-0020	1	A	A909235	KA, LED, BLUE, CLEAR DIFFUSER W/CLIFFORD BEZEL	IN POLY BAG	ZLED7M00
1	150-0180	1	A		HRN, LED, 2.50MM 2-PIN, 2-WIRE, BLUE LED/CON, CON/CON, CLEAR DIFFUSER	26AWG, 150MM+1500MM BONDED (RED,BLU)	
2	620-0052-01	1	A		PLASTIC, BEZEL, LED MOUNT, W/ ADHESIVE BACKING	CLIFFORD LOGO	IADAP0A0
2	100-0087	1	A		KA,HARDWARE KIT, THATCHAM, UK		<<NEED PN>>
1	100-0090	1	A		KA, PIN SWITCH, ADJUSTABLE, RIGHT ANGLE, EUROPEAN	IN POLYBAG WITH SELF-TAPPING SCREW, W/ RUBBER BOOT	
2	320-0005	1	A		FUSE HOLDER, ATC, WATER RESISTANT	14AWG, 9 3/4" (250MM), W/COVER, BLACK, 10AMP	
3	320-0002-15	1	A		FUSE, ATC (.250 BLADE)	15 AMP	
4	450-0077	4	A		HDW, SCREW,WAFERHEAD,BLACK, <<DIAMETER>>	13MM	
5	450-0078	6	A		HDW, CABLE TIE, BLACK	6", GENERIC	
6	450-0079	4	A		HDW, CABLE TIE, BLACK	14", GENERIC	
7	450-0080	8	A		HDW, HEAT SHRINK, 6MM DIAMETER, PRECUT	1" LENGTH	
3	100-0116	1	B	(A509U)	KA, A509U, ULTRASONIC SENSOR W/ TX & RX	IN PLAIN WHITE BOX, "MADE IN TAIWAN"	(A509U)
1	100-0026	1	X1		KA, MOUNTING KIT, ULTRASONIC SENSOR	CONTAINS (2ea screws, 2ea U-bracket for transducers, 2 ea long plastic clips)	<<NEED PN>>

Directed Electronics, Inc.
One Viper Way, Vista, California 92081, USA
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Item	P/N	Qty	Rev	DEI P/N	Title	Detail	Vend-P/N
2	126-0004	1	A	A509U	FA, SENSOR, ULTRASONIC, A509U	PCB: DC22-1, IC:LM358	A509U
1	170-0033	1	A		PCBA, SENSOR, ULTRASONIC, A509U	DC22-1	DC22
1	200-0028	1	A		PCB, SENSOR, DC22-1	DS, SMT, TH, SOIC	DC22
2	620-0061	1	A		MECH, PLASTIC, SENSOR, 509U, TOP HOUSING	DIRECTED LOGO, MODEL509U, ADJUST	IANBA0A0
3	620-0062	1	A		MECH, PLASTIC, SENSOR, 509U, BOTTOM HOUSING	DIRECTED LOGO, WIRING, DC WHEELS	IANBA0A0
3	150-0074	1	A		HRN, 2.50MM, TX, ULTRASONIC, RED CON/ SENSOR	24AWG, 3000MM SHEILDED COAX	ZAST2000
4	150-0373	1	A		HRN, 2.50MM, RX, ULTRASONIC, BLUE CON/ SENSOR	24AWG, 3000MM SHEILDED COAX	ZASR5000
5	520-0182	1	___-___		WHITE BOX, A509U	MADE IN TAIWAN	LXW_____
4	100-0123	1	A	(A515ESP)	KA, 515ESP SIREN, ESP BACK UP BATTERY	IN PLAIN WHITE BOX, "MADE IN TAIWAN"	(A515ESP)
1	100-0065	1	A		KA,MOUNTING HARDWARE IN POLY BAG	2-SHEET METAL SCREWS, 2-HEX HEAD MACHINE SCREWS,2-LOCK WASHERS,2-MACHINE SQUARE NUTS	<<NEED P/N>>
2	100-0066	1	A		KA,515 MOUNTING BRACKET IN POLY BAG	BLACK, SPCC-SD IRON	<<NEED P/N>>
1	610-0020	1	A		BRACKET, SIREN/ SPEAKER, STRAIGHT	1.6MM SPCC-SD IRON, "U" BRACKET, W/ 8MM SIREN MOUNTING hOLES	MBU86000
3	100-0124	1	A		KA,EMPTY HOUSING IN POLYBAG	1-WHITE 3-PIN HOUSING	<<NEED PN>>
1	220-0010-03	1			CONNECTOR HOUSING, <<PITCH/ MM?>>, <<COLOR?>>, MALE HOUSING USES FEMALE TERMINALS,WHITE	3-PIN	
4	127-0014	1	B	A515ESP	FA, INAC, SIREN,SELF-POWERED 515ESP,SOFT CHIRP, 6 TONE, PROGRAMMABLE, 1-TONE ONLY JUMPER	PCB:DD08, IC:NKD85A	A515ESP
1	150-0374	1	A		CABLE, 3-WIRE, WIRE/TERMINAL	22AWG,3000MM, BLK PVC JACKET, (ORG,RED,BLK)	E00083
2	170-0148	1	A		PCBA, SIREN, 515ESP, BATTERY BACK-UP,THATCHAM	SOP-8, DD08	DD08
1	200-0148	1	A		PCB, DD08, ESP, SIREN	DS, SMT,TH, SOP-18	DD08
2	210-0037-03	1	A		IC,REGULATOR,3.3 VOLT	SOT-25	HT7533-1
3	211-0049	1	A		IC,MCU,515ESP,OTP	SOP-18	AZNKD85A

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Item	P/N	Qty	Rev	DEI P/N	Title	Detail	Vend-P/N
1	210-0036-03	1	A		IC,MCU,8-BIT,OTP	SOP-18	HT48R05A-1
2	400-0047	1	X1		SW,SOURCE CODE, 515ESP		<<NEED PN>
4	212-0002	1	A		IC, CUSTOM, PROGRAMMABLE 6-TONE SIREN, SOFT CHIRP	18-PIN DIP	NTK025
5	310-0007	1	A		BATTERY ASSEMBLY, 6 VOLT, Ni-MH, RECHARGABLE	PCB MOUNT, 280mAH?	5H280BC
3	300-0005	1	A		SPEAKER (EXCITER), ASSEMBLY, W/RETAINER		TA540Z00
4	620-0209-05	1	A		PLASTIC HOUSING,SIREN, FRONT, ABS,(HIGH HEAT) 515	515ESP	IA5ESP00
5	620-0210-05	1	A		PLASTIC HOUSING,SIREN, REAR, ABS,(HIGH HEAT) 515	515ESP	IA5ESP00
5	150-0246	1	A		HRN, 2.50MM,3-PIN,3-WIRE RED CON/CON,FUSED	22AWG,313MM (RED,BLK,ORG) 3AMP	E00065
6	520-0203	1	08-05		WHITE BOX, A515ESP	"MADE IN CHINA", 4 3/8" WIDE x 3 5/8" DEEP x 4 5/8" TALL	LXD51EP0
1	520-0123ART	1	04-05	N515ESP	GB ARTWORK, W/ INSTRUCTIONS	0 93207 01850 3	520-0123ART
5	128-0063	1	X6	A330X3	FA,BD,CLIFFORD 330X3,CANOEM3 UPGRADE,HS,UK,THATCHAM	PCB: DG10,IC: <<NEED IC>>	A330X3
1	170-0342	1	X2		PCBA, CTRL,CAN OEM, HS	<<NEED IC PACKAGE>>, DG10	ZPDG1000
1	200-0342	1	X2		PCB, DG10, CAN OEM HS	DS, SMT, TH	DG10
6	150-0006	1	A	K538	HRN, SWITCH, 2.50MM, 2-PIN,2-WIRE, VALET SW, MOMENTARY, SNAP FIT, BLUE CON/ SW	22AWG, 1830MM, (GRY,BLK)	ZSW08000
7	150-0144	1	A		HRN, 2.0MM, 4-PIN, 3-WIRE, CON/ 2.0MM 3-PIN, 3-WIRE CON	26AWG,1000MM,(EMPTY,BLU,BLK,RED) (BLU,BLK,RED)	AN427B
8	150-0421	1	X1		HRN, 2.50MM, 9-PIN,9-WIRE, CON/WIRE, FUSED	22AWG, 1000MM, (RED,BLK,RED/WHT,BLU,ORG,WHT,BRN/BLK,GRY/BLK,BRN/WHT) 5AMP	AK908B
9	150-0422	1	X1		HRN, 2.50MM, 3-PIN, 2-WIRE, WHITE CON/WIRE	22AWG, 700MM, (EMPTY,ORG/GRN,ORG/BRN)	AK359B
10	500-0291	1	___-___	G330X3	OG,CLIFFORD 330X3	COLOR COVER, 4 3/16" x 5 7/8" ?	<<NEED P/N>>
11	510-0324	1	___-___	N330X3	IG, CLIFFORD 330X3	B & W, 4 3/4" x 6 5/8"	<<NEED P/N>>
12	520-0389	1	___-___	GB330X3	GB, CLIFFORD 330X3	COLOR,<<SIZE>>, <<0 93207 >>	<<NEED P/N>>

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Item	P/N	Qty	Rev	DEI P/N	Title	Detail	Vend-P/N
13	530-0013	1	A		LABEL, DECAL, WINDOW, CLIFFORD G5	2 5/8"L x 1 3/8"W (67MM x 35MM), ADHESIVE ,DOUBLE SIDED	<<NEED PN>>
14	540-0001	1	07-00	MKG-1	INSERT, PATENT CARD	5 7/8" X 4"	
15	901-0066	1	0.6		ENG DOC, SPECIFICATION,PROJECT 7043,CANOEM, UK		901-0066
16	910-0000	1	0	<<REPLACE>>	QUALITY, CONTROL PLAN	<<PLEASE REPLACE WITH CORRECT CONTROL PLAN>>	
17	911-0000	1	0	WI	WORK INSTRUCTION,<<DESCRIPTION>>,<<FAMILY>>		

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Assy Tree for: 014-0068

Printed 8/20/2007

014-0068

FGI,BD,CLIFFORD 330X2 CANBUS SW SECURITY UPGRADE SYSTEM, UK, THATCHAM

Type	CAT	DEI P/N	330X2
Revision	X9	Brand	04
Status	U	M/C l/w/h, Qty	_____x_____x_____, ____
Date	1/30/2007	Unit Weight	_____lbs, M/C_____lbs
By	GW	Barcode	0 93207 05450 1

<<PLEASE PACKAGE INSTALLATION GUIDES TOGETHER IN SEPARATE MASTER CARTON IN SAME SHIPMENT WITH KITS>>

NOTE: M/C CONTAINS INNER PACKS WITH 6-GIFT BOXES EACH. EACH INNER PACK HAS ITS OWN SHIPPING LABEL

REV A: -D/C _____,____/_____/_____

#7043

Item	P/N	Qty	Rev	DEI P/N	Title	Detail	Vend-P/N
Top	014-0068		X9	330X2	FGI,BD,CLIFFORD 330X2 CANBUS SW SECURITY UPGRADE SYSTEM, UK, THATCHAM		330X2
1	100-0020	1	A	A909235	KA, LED, BLUE, CLEAR DIFFUSER W/CLIFFORD BEZEL	IN POLY BAG	ZLED7M00
1	150-0180	1	A		HRN, LED, 2.50MM 2-PIN, 2-WIRE, BLUE LED/CON, CON/CON, CLEAR DIFFUSER	26AWG, 150MM+1500MM BONDED (RED,BLU)	
2	620-0052-01	1	A		PLASTIC, BEZEL, LED MOUNT, W/ ADHESIVE BACKING	CLIFFORD LOGO	IADAP0A0
2	100-0087	1	A		KA,HARDWARE KIT, THATCHAM, UK		<<NEED PN>>
1	100-0090	1	A		KA, PIN SWITCH, ADJUSTABLE, RIGHT ANGLE, EUROPEAN	IN POLYBAG WITH SELF-TAPPING SCREW, W/ RUBBER BOOT	
2	320-0005	1	A		FUSE HOLDER, ATC, WATER RESISTANT	14AWG, 9 3/4" (250MM), W/COVER, BLACK, 10AMP	
3	320-0002-15	1	A		FUSE, ATC (.250 BLADE)	15 AMP	
4	450-0077	4	A		HDW, SCREW,WAFERHEAD,BLACK, <<DIAMETER>>	13MM	
5	450-0078	6	A		HDW, CABLE TIE, BLACK	6", GENERIC	
6	450-0079	4	A		HDW, CABLE TIE, BLACK	14", GENERIC	
7	450-0080	8	A		HDW, HEAT SHRINK, 6MM DIAMETER, PRECUT	1" LENGTH	
3	100-0116	1	B	(A509U)	KA, A509U, ULTRASONIC SENSOR W/ TX & RX	IN PLAIN WHITE BOX, "MADE IN TAIWAN"	(A509U)
1	100-0026	1	X1		KA, MOUNTING KIT, ULTRASONIC SENSOR	CONTAINS (2ea screws, 2ea U-bracket for transducers, 2 ea long plastic clips)	<<NEED PN>>

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One Viper Way, Vista, California 92081, USA
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Item	P/N	Qty	Rev	DEI P/N	Title	Detail	Vend-P/N
2	126-0004	1	A	A509U	FA, SENSOR, ULTRASONIC, A509U	PCB: DC22-1, IC:LM358	A509U
1	170-0033	1	A		PCBA, SENSOR, ULTRASONIC, A509U	DC22-1	DC22
1	200-0028	1	A		PCB, SENSOR, DC22-1	DS, SMT, TH, SOIC	DC22
2	620-0061	1	A		MECH, PLASTIC, SENSOR, 509U, TOP HOUSING	DIRECTED LOGO, MODEL509U, ADJUST	IANBA0A0
3	620-0062	1	A		MECH, PLASTIC, SENSOR, 509U, BOTTOM HOUSING	DIRECTED LOGO, WIRING, DC WHEELS	IANBA0A0
3	150-0074	1	A		HRN, 2.50MM, TX, ULTRASONIC, RED CON/ SENSOR	24AWG, 3000MM SHEILDED COAX	ZAST2000
4	150-0373	1	A		HRN, 2.50MM, RX, ULTRASONIC, BLUE CON/ SENSOR	24AWG, 3000MM SHEILDED COAX	ZASR5000
5	520-0182	1	___-___		WHITE BOX, A509U	MADE IN TAIWAN	LXW_____
4	100-0123	1	A	(A515ESP)	KA, 515ESP SIREN, ESP BACK UP BATTERY	IN PLAIN WHITE BOX, "MADE IN TAIWAN"	(A515ESP)
1	100-0065	1	A		KA,MOUNTING HARDWARE IN POLY BAG	2-SHEET METAL SCREWS, 2-HEX HEAD MACHINE SCREWS,2-LOCK WASHERS,2-MACHINE SQUARE NUTS	<<NEED P/N>>
2	100-0066	1	A		KA,515 MOUNTING BRACKET IN POLY BAG	BLACK, SPCC-SD IRON	<<NEED P/N>>
1	610-0020	1	A		BRACKET, SIREN/ SPEAKER, STRAIGHT	1.6MM SPCC-SD IRON, "U" BRACKET, W/ 8MM SIREN MOUNTING hOLES	MBU86000
3	100-0124	1	A		KA,EMPTY HOUSING IN POLYBAG	1-WHITE 3-PIN HOUSING	<<NEED PN>>
1	220-0010-03	1			CONNECTOR HOUSING, <<PITCH/ MM?>>, <<COLOR?>>, MALE HOUSING USES FEMALE TERMINALS,WHITE	3-PIN	
4	127-0014	1	B	A515ESP	FA, INAC, SIREN,SELF-POWERED 515ESP,SOFT CHIRP, 6 TONE, PROGRAMMABLE, 1-TONE ONLY JUMPER	PCB:DD08, IC:NKD85A	A515ESP
1	150-0374	1	A		CABLE, 3-WIRE, WIRE/TERMINAL	22AWG,3000MM, BLK PVC JACKET, (ORG,RED,BLK)	E00083
2	170-0148	1	A		PCBA, SIREN, 515ESP, BATTERY BACK-UP,THATCHAM	SOP-8, DD08	DD08
1	200-0148	1	A		PCB, DD08, ESP, SIREN	DS, SMT,TH, SOP-18	DD08
2	210-0037-03	1	A		IC,REGULATOR,3.3 VOLT	SOT-25	HT7533-1
3	211-0049	1	A		IC,MCU,515ESP,OTP	SOP-18	AZNKD85A

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Item	P/N	Qty	Rev	DEI P/N	Title	Detail	Vend-P/N
1	210-0036-03	1	A		IC,MCU,8-BIT,OTP	SOP-18	HT48R05A-1
2	400-0047	1	X1		SW,SOURCE CODE, 515ESP		<<NEED PN>
4	212-0002	1	A		IC, CUSTOM, PROGRAMMABLE 6-TONE SIREN, SOFT CHIRP	18-PIN DIP	NTK025
5	310-0007	1	A		BATTERY ASSEMBLY, 6 VOLT, Ni-MH, RECHARGABLE	PCB MOUNT, 280mAH?	5H280BC
3	300-0005	1	A		SPEAKER (EXCITER), ASSEMBLY, W/RETAINER		TA540Z00
4	620-0209-05	1	A		PLASTIC HOUSING,SIREN, FRONT, ABS,(HIGH HEAT) 515	515ESP	IA5ESP00
5	620-0210-05	1	A		PLASTIC HOUSING,SIREN, REAR, ABS,(HIGH HEAT) 515	515ESP	IA5ESP00
5	150-0246	1	A		HRN, 2.50MM,3-PIN,3-WIRE RED CON/CON,FUSED	22AWG,313MM (RED,BLK,ORG) 3AMP	E00065
6	520-0203	1	08-05		WHITE BOX, A515ESP	"MADE IN CHINA", 4 3/8" WIDE x 3 5/8" DEEP x 4 5/8" TALL	LXD51EP0
1	520-0123ART	1	04-05	N515ESP	GB ARTWORK, W/ INSTRUCTIONS	0 93207 01850 3	520-0123ART
5	128-0062	1	X5	A330X2	FA,BD,CLIFFORD 330X2 CANOEM2 UPGRADE,SW,UK,THATCHAM	PCB: DG09,IC: <<NEED IC>>	A330X2
1	170-0340	1	X2		PCBA, CTRL,CAN OEM, SW	<<NEED IC PACKAGE>>, DG09	ZPDG0900
1	200-0340	1	X2		PCB, DG09, CAN OEM SW	DS, SMT, TH	DG09
6	150-0006	1	A	K538	HRN, SWITCH, 2.50MM, 2-PIN,2-WIRE, VALET SW, MOMENTARY, SNAP FIT, BLUE CON/ SW	22AWG, 1830MM, (GRY,BLK)	ZSW08000
7	150-0144	1	A		HRN, 2.0MM, 4-PIN, 3-WIRE, CON/ 2.0MM 3-PIN, 3-WIRE CON	26AWG,1000MM,(EMPTY,BLU,BLK,RED) (BLU,BLK,RED)	AN427B
8	150-0421	1	X1		HRN, 2.50MM, 9-PIN,9-WIRE, CON/WIRE, FUSED	22AWG, 1000MM, (RED,BLK,RED/WHT,BLU,ORG,WHT,BRN/BLK,GRY/BLK,BRN/WHT) 5AMP	AK908B
9	150-0423	1	X1		HRN, 2.50MM, 3-PIN, 1-WIRE, WHITE CON/WIRE	22AWG, 700MM, (LT.GRN,EMPTY,EMPTY)	AK360B
10	500-0290	1	___-___	G330X2	OG,CLIFFORD 330X2	COLOR COVER, 4 3/16" x 5 7/8" ?	<<NEED P/N>>
11	510-0323	1	___-___	N330X2	IG, CLIFFORD 330X2	B & W, 4 3/4" x 6 5/8"	<<NEED P/N>>
12	520-0388	1	___-___	GB330X2	GB, CLIFFORD 330X2	COLOR,<<SIZE>>, <<0 93207 >>	<<NEED P/N>>

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Item	P/N	Qty	Rev	DEI P/N	Title	Detail	Vend-P/N
13	530-0013	1	A		LABEL, DECAL, WINDOW, CLIFFORD G5	2 5/8"L x 1 3/8"W (67MM x 35MM), ADHESIVE ,DOUBLE SIDED	<<NEED PN>>
14	540-0001	1	07-00	MKG-1	INSERT, PATENT CARD	5 7/8" X 4"	
15	901-0066	1	0.6		ENG DOC, SPECIFICATION,PROJECT 7043,CANOEM, UK		901-0066
16	910-0000	1	0	<<REPLACE>>	QUALITY, CONTROL PLAN	<<PLEASE REPLACE WITH CORRECT CONTROL PLAN>>	
17	911-0000	1	0	WI	WORK INSTRUCTION,<<DESCRIPTION>>,<<FAMILY>>		

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Assy Tree for: 014-0067

Printed 8/20/2007

014-0067

FGI,BD,CLIFFORD 330X1 CANBUS FT SECURITY UPGRADE SYSTEM, UK, THATCHAM

Type	CAT	DEI P/N	330X1
Revision	X10	Brand	12
Status	U	M/C l/w/h, Qty	_____x_____x_____, ____
Date	1/30/2007	Unit Weight	_____lbs, M/C_____lbs
By	GW	Barcode	0 93207 05449 5

<<PLEASE PACKAGE INSTALLATION GUIDES TOGETHER IN SEPARATE MASTER CARTON IN SAME SHIPMENT WITH KITS>>

NOTE: M/C CONTAINS INNER PACKS WITH 6-GIFT BOXES EACH. EACH INNER PACK HAS ITS OWN SHIPPING LABEL

REV A: -D/C _____,____/_____/_____

#7043

Item	P/N	Qty	Rev	DEI P/N	Title	Detail	Vend-P/N
Top	014-0067		X10	330X1	FGI,BD,CLIFFORD 330X1 CANBUS FT SECURITY UPGRADE SYSTEM, UK, THATCHAM		330X1
1	100-0020	1	A	A909235	KA, LED, BLUE, CLEAR DIFFUSER W/CLIFFORD BEZEL	IN POLY BAG	ZLED7M00
1	150-0180	1	A		HRN, LED, 2.50MM 2-PIN, 2-WIRE, BLUE LED/CON, CON/CON, CLEAR DIFFUSER	26AWG, 150MM+1500MM BONDED (RED,BLU)	
2	620-0052-01	1	A		PLASTIC, BEZEL, LED MOUNT, W/ ADHESIVE BACKING	CLIFFORD LOGO	IADAP0A0
2	100-0087	1	A		KA,HARDWARE KIT, THATCHAM, UK		<<NEED PN>>
1	100-0090	1	A		KA, PIN SWITCH, ADJUSTABLE, RIGHT ANGLE, EUROPEAN	IN POLYBAG WITH SELF-TAPPING SCREW, W/ RUBBER BOOT	
2	320-0005	1	A		FUSE HOLDER, ATC, WATER RESISTANT	14AWG, 9 3/4" (250MM), W/COVER, BLACK, 10AMP	
3	320-0002-15	1	A		FUSE, ATC (.250 BLADE)	15 AMP	
4	450-0077	4	A		HDW, SCREW,WAFERHEAD,BLACK, <<DIAMETER>>	13MM	
5	450-0078	6	A		HDW, CABLE TIE, BLACK	6", GENERIC	
6	450-0079	4	A		HDW, CABLE TIE, BLACK	14", GENERIC	
7	450-0080	8	A		HDW, HEAT SHRINK, 6MM DIAMETER, PRECUT	1" LENGTH	
3	100-0116	1	B	(A509U)	KA, A509U, ULTRASONIC SENSOR W/ TX & RX	IN PLAIN WHITE BOX, "MADE IN TAIWAN"	(A509U)
1	100-0026	1	X1		KA, MOUNTING KIT, ULTRASONIC SENSOR	CONTAINS (2ea screws, 2ea U-bracket for transducers, 2 ea long plastic clips)	<<NEED PN>>

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Item	P/N	Qty	Rev	DEI P/N	Title	Detail	Vend-P/N
2	126-0004	1	A	A509U	FA, SENSOR, ULTRASONIC, A509U	PCB: DC22-1, IC:LM358	A509U
1	170-0033	1	A		PCBA, SENSOR, ULTRASONIC, A509U	DC22-1	DC22
1	200-0028	1	A		PCB, SENSOR, DC22-1	DS, SMT, TH, SOIC	DC22
2	620-0061	1	A		MECH, PLASTIC, SENSOR, 509U, TOP HOUSING	DIRECTED LOGO, MODEL509U, ADJUST	IANBA0A0
3	620-0062	1	A		MECH, PLASTIC, SENSOR, 509U, BOTTOM HOUSING	DIRECTED LOGO, WIRING, DC WHEELS	IANBA0A0
3	150-0074	1	A		HRN, 2.50MM, TX, ULTRASONIC, RED CON/ SENSOR	24AWG, 3000MM SHEILDED COAX	ZAST2000
4	150-0373	1	A		HRN, 2.50MM, RX, ULTRASONIC, BLUE CON/ SENSOR	24AWG, 3000MM SHEILDED COAX	ZASR5000
5	520-0182	1	___-___		WHITE BOX, A509U	MADE IN TAIWAN	LXW_____
4	100-0123	1	A	(A515ESP)	KA, 515ESP SIREN, ESP BACK UP BATTERY	IN PLAIN WHITE BOX, "MADE IN TAIWAN"	(A515ESP)
1	100-0065	1	A		KA,MOUNTING HARDWARE IN POLY BAG	2-SHEET METAL SCREWS, 2-HEX HEAD MACHINE SCREWS,2-LOCK WASHERS,2-MACHINE SQUARE NUTS	<<NEED P/N>>
2	100-0066	1	A		KA,515 MOUNTING BRACKET IN POLY BAG	BLACK, SPCC-SD IRON	<<NEED P/N>>
1	610-0020	1	A		BRACKET, SIREN/ SPEAKER, STRAIGHT	1.6MM SPCC-SD IRON, "U" BRACKET, W/ 8MM SIREN MOUNTING hOLES	MBU86000
3	100-0124	1	A		KA,EMPTY HOUSING IN POLYBAG	1-WHITE 3-PIN HOUSING	<<NEED PN>>
1	220-0010-03	1			CONNECTOR HOUSING, <<PITCH/ MM?>>, <<COLOR?>>, MALE HOUSING USES FEMALE TERMINALS,WHITE	3-PIN	
4	127-0014	1	B	A515ESP	FA, INAC, SIREN,SELF-POWERED 515ESP,SOFT CHIRP, 6 TONE, PROGRAMMABLE, 1-TONE ONLY JUMPER	PCB:DD08, IC:NKD85A	A515ESP
1	150-0374	1	A		CABLE, 3-WIRE, WIRE/TERMINAL	22AWG,3000MM, BLK PVC JACKET, (ORG,RED,BLK)	E00083
2	170-0148	1	A		PCBA, SIREN, 515ESP, BATTERY BACK-UP,THATCHAM	SOP-8, DD08	DD08
1	200-0148	1	A		PCB, DD08, ESP, SIREN	DS, SMT,TH, SOP-18	DD08
2	210-0037-03	1	A		IC,REGULATOR,3.3 VOLT	SOT-25	HT7533-1
3	211-0049	1	A		IC,MCU,515ESP,OTP	SOP-18	AZNKD85A

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Item	P/N	Qty	Rev	DEI P/N	Title	Detail	Vend-P/N
1	210-0036-03	1	A		IC,MCU,8-BIT,OTP	SOP-18	HT48R05A-1
2	400-0047	1	X1		SW,SOURCE CODE, 515ESP		<<NEED PN>
4	212-0002	1	A		IC, CUSTOM, PROGRAMMABLE 6-TONE SIREN, SOFT CHIRP	18-PIN DIP	NTK025
5	310-0007	1	A		BATTERY ASSEMBLY, 6 VOLT, Ni-MH, RECHARGABLE	PCB MOUNT, 280mAH?	5H280BC
3	300-0005	1	A		SPEAKER (EXCITER), ASSEMBLY, W/RETAINER		TA540Z00
4	620-0209-05	1	A		PLASTIC HOUSING,SIREN, FRONT, ABS,(HIGH HEAT) 515	515ESP	IA5ESP00
5	620-0210-05	1	A		PLASTIC HOUSING,SIREN, REAR, ABS,(HIGH HEAT) 515	515ESP	IA5ESP00
5	150-0246	1	A		HRN, 2.50MM,3-PIN,3-WIRE RED CON/CON,FUSED	22AWG,313MM (RED,BLK,ORG) 3AMP	E00065
6	520-0203	1	08-05		WHITE BOX, A515ESP	"MADE IN CHINA", 4 3/8" WIDE x 3 5/8" DEEP x 4 5/8" TALL	LXD51EP0
1	520-0123ART	1	04-05	N515ESP	GB ARTWORK, W/ INSTRUCTIONS	0 93207 01850 3	520-0123ART
5	128-0061	1	X6	A330X1	FA,BD,CLIFFORD 330X1, CANOEM1 UPGRADE,FT,UK,THATCHAM	PCB: DG08,IC: <<NEED IC>>	A330X1
1	170-0341	1	X2		PCBA, CTRL,CAN OEM, FT	<<NEED IC PACKAGE>>, DG08	ZPDG0800
1	200-0341	1	X2		PCB, DG08, CAN OEM FT	DS, SMT, TH	DG08
6	150-0006	1	A	K538	HRN, SWITCH, 2.50MM, 2-PIN,2-WIRE, VALET SW, MOMENTARY, SNAP FIT, BLUE CON/ SW	22AWG, 1830MM, (GRY,BLK)	ZSW08000
7	150-0144	1	A		HRN, 2.0MM, 4-PIN, 3-WIRE, CON/ 2.0MM 3-PIN, 3-WIRE CON	26AWG,1000MM,(EMPTY,BLU,BLK,RED) (BLU,BLK,RED)	AN427B
8	150-0421	1	X1		HRN, 2.50MM, 9-PIN,9-WIRE, CON/WIRE, FUSED	22AWG, 1000MM, (RED,BLK,RED/WHT,BLU,ORG,WHT,BRN/BLK,GRY/BLK,BRN/WHT) 5AMP	AK908B
9	150-0422	1	X1		HRN, 2.50MM, 3-PIN, 2-WIRE, WHITE CON/WIRE	22AWG, 700MM, (EMPTY,ORG/GRN,ORG/BRN)	AK359B
10	500-0289	1	___-___	G330X1	OG,CLIFFORD 330X1	COLOR COVER, 4 3/16" x 5 7/8" ?	<<NEED P/N>>
11	510-0322	1	___-___	N330X1	IG, CLIFFORD 330X1	B & W, 4 3/4" x 6 5/8"	<<NEED P/N>>
12	520-0387	1	___-___	GB330X1	GB, CLIFFORD 330X1	COLOR,<<SIZE>>, <<0 93207 >>	<<NEED P/N>>

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Item	P/N	Qty	Rev	DEI P/N	Title	Detail	Vend-P/N
13	530-0013	2	A		LABEL, DECAL, WINDOW, CLIFFORD G5	2 5/8"L x 1 3/8"W (67MM x 35MM), ADHESIVE ,DOUBLE SIDED	<<NEED PN>>
14	540-0001	1	07-00	MKG-1	INSERT, PATENT CARD	5 7/8" X 4"	
15	901-0066	1	0.6		ENG DOC, SPECIFICATION,PROJECT 7043,CANOEM, UK		901-0066
16	910-0000	1	0	<<REPLACE>>	QUALITY, CONTROL PLAN	<<PLEASE REPLACE WITH CORRECT CONTROL PLAN>>	
17	911-0000	1	0	WI	WORK INSTRUCTION,<<DESCRIPTION>>,<<FAMILY>>		

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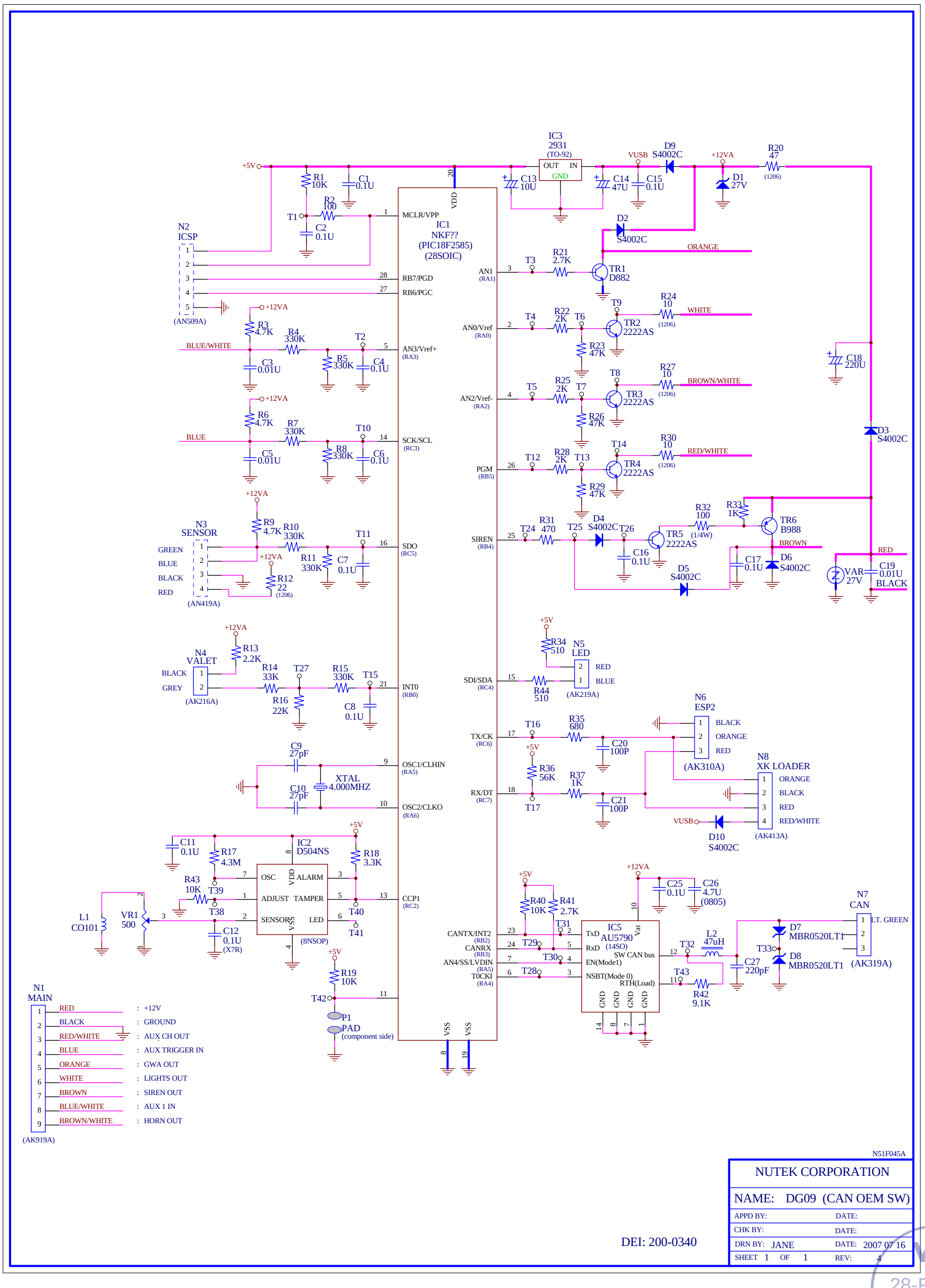
IC1
NKF??
(PIC18F2585)
(28SOIC)
IC3
2931
(TO-92)
OUT IN
GND
D9
S4002C
R20
47
(1206)
+12VA
VUSB
+5V
R1
10K
C1
0.1U
R2
100
T1
C2
0.1U
C13
10U
C14
47U
C15
0.1U
D1
27V
D2
S4002C
ORANGE
N2
ICSP
(AN509A)
MCLR/VPP
RB7/PGD
RB6/PGC
VDD
AN1
(RA1)
T3
R21
2.7K
TR1
D882
AN0/Vref
(RA0)
T4
R22
2K
T6
T9
TR2
2222AS
R24
10
WHITE
R23
47K
AN2/Vref-
(RA2)
T5
R25
2K
T7
T8
TR3
2222AS
R27
10
BROWN/WHITE
R26
47K
PGM
(RB5)
T12
R28
2K
T13
T14
TR4
2222AS
R30
10
RED/WHITE
R29
47K
C18
220U
D3
S4002C
BLUE/WHITE
R3
4.7K
R4
330K
T2
C3
0.01U
R5
330K
C4
0.1U
AN3/Vref+
(RA3)
BLUE
R6
4.7K
R7
330K
T10
C5
0.01U
R8
330K
C6
0.1U
SCK/SCL
(RC3)
N3
SENSOR
GREEN
BLUE
BLACK
RED
(AN419A)
R9
4.7K
R10
330K
T11
R11
330K
C7
0.1U
R12
22
(1206)
SDO
(RC5)
SIREN
(RB4)
T24
R31
470
T25
D4
S4002C
T26
C16
0.1U
R32
100
(1/4W)
R33
1K
TR5
2222AS
TR6
B988
BROWN
C17
0.1U
D6
S4002C
D5
S4002C
RED
VAR
27V
C19
0.01U
BLACK
N4
VALET
(AK216A)
R13
2.2K
R14
33K
T27
R15
330K
T15
R16
22K
C8
0.1U
INT0
(RB0)
SDI/SDA
(RC4)
R34
510
N5
LED
(AK219A)
R44
510
C9
27pF
C10
27pF
XTAL
4.000MHZ
OSC1/CLHIN
(RA5)
OSC2/CLKO
(RA6)
TX/CK
(RC6)
T16
R35
680
C20
100P
N6
ESP2
(AK310A)
RX/DT
(RC7)
T17
R36
56K
R37
1K
C21
100P
N8
XK LOADER
(AK413A)
D10
S4002C
C11
0.1U
R17
4.3M
IC2
D504NS
R18
3.3K
R43
10K
T39
T38
T40
T41
OSC
ALARM
ADJUST
TAMPER
SENSOR
LED
(8NSOP)
C12
0.1U
(X7R)
L1
CO101
VR1
500
CCP1
(RC2)
R19
10K
T42
P1
PAD
(component side)
CANTX/INT2
(RB2)
CANRX
(RB3)
AN4/SS/LVDIN
(RA5)
T0CKI
(RA4)
R40
10K
R41
2.7K
T31
T29
T30
T28
IC5
AU5790
(14SO)
TxD
RxD
SW CAN bus
EN(Mode1)
NSBT(Mode 0)
RTH(Load)
Vat
GND
C25
0.1U
C26
4.7U
(0805)
T32
L2
47uH
T43
R42
9.1K
C27
220pF
D7
MBR0520LT1
D8
MBR0520LT1
T33
N7
CAN
LT. GREEN
(AK319A)
VSS
N1
MAIN
(AK919A)
RED : +12V
BLACK : GROUND
RED/WHITE : AUX CH OUT
BLUE : AUX TRIGGER IN
ORANGE : GWA OUT
WHITE : LIGHTS OUT
BROWN : SIREN OUT
BLUE/WHITE : AUX 1 IN
BROWN/WHITE : HORN OUT
N51F045A
NUTEK CORPORATION
NAME: DG09 (CAN OEM SW)
APPD BY: DATE:
CHK BY: DATE:
DRN BY: JANE DATE: 2007 07 16
SHEET 1 OF 1 REV: 4
DEI: 200-0340
28-Feb-08
UK Approval Authority

TEST REPORT

Automotive

Test of:	Vehicle Security System – Alarm.
Model Number:	Clifford 330X. Alarm.
SGS Reference :	AUT114398/1/GT/07.
VCA Reference :	EAH.183969.
Applicant :	Directed Electronics Inc.
Test Specification:	2006/28/EC. 2006* & ECE Reg 10.2* Annex 7, 8, 9 & 10.
Date of Receipt:	29th November 2007.
Date of Test(s):	11th to 23rd December 2007.
Date of Issue:	31st December 2007.
Issue No:	One.
Conclusion :	The sample tested was found to comply with the standards

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Tests marked: are not covered by our UKAS accreditation.*

Signature	Signature
Test Engineer	***Authorised Signatory***
~~G. Hann~~ G. Thompson	~~F. Huggins~~ ~~A. Reynard~~ G. Hann

Doc. Ref: WS Auto 01 F10 I Rev1

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Member of SGS Group (Société Générale de Surveillance)

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1. Client Information

Company Name:	Directed Electronics Inc.
Address:	Unit C, Longmead Business Centre, Blenheim Road, Epsom, Surrey, KT19. 9QQ.
Contact Name:	Carl Huntington
Telephone:	+44 (0) 1372 847147
Facsimile:	+44 (0) 1372 847149

2. Equipment Under Test (EUT)

2.1 Identification of EUT

Model Number:	Clifford 330X Alarm.
Unique Identifier:	Not supplied by the client.
Description of EUT:	Vehicle alarm system, which operates from the vehicle CAN data, with battery back up siren, and sensors – Ignition, doors/boot/bonnet & ultrasonic movement.
Supply Voltage:	12 volts DC.
Accessories Supplied:	A Viper 350 HV module was used for the "CAN" data to operate the system.

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3. Purpose of Tests

To perform the relevant tests and assess the product for compliance with the above specification.

4. Deviations or Exclusions from the Test Specifications

There were no deviations from the test specifications.

The scope of the inspection is limited to what is specified in the clients instructions and does not include any other checks or tests.

5. Operation of the EUT During Testing

5.1 Configuration and Peripherals

Peripheral or support equipment was required for the tests.

5.2 Operating Mode and Environmental Conditions

The operating modes and environmental conditions used for each individual test are described in the test results section of this report.

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6. Test Results

1 Test Specification

2004/104/EC: 2004, as amended by 2005/83/EC / 2006/28/EC.
Also covering ECE Reg 10.2.

2 Purpose of Test

To perform the relevant tests and assess the product for compliance with the above specification.

3 Methods and Procedures.

The following tests are called up by the test specification:-

Standard	Date	Description	Applicable
2004/104/EC ECE Reg 10.2	2004.	Narrowband Emissions.	Yes
2004/104/EC ECE Reg 10.2	2004	Broadband Emissions	Yes
2004/104/EC ECE Reg 10.2	2004	Radiated Immunity	Yes
ISO 7637 – 2 [2004/104/EC]	2004	Transient conduction along supply lines.	Yes
ISO 7637 – 2 [2004/104/EC]	2004	Voltage transient emissions	Yes

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Operation of E.U.T. During Testing

Operating Environment

Power Supply: **Volts** 12/13.5 DC

Environmental conditions:-

Temperature:	^{o}C	18.5 - 19
Relative Humidity:	%	33 - 43
Barometric Pressure:	mbar	1001 - 1024

Configuration & Peripherals

Peripherals were attached to the EUT during testing.
A Viper 350 HV module was used for the “CAN” data to operate the system.

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Summary of Test Results

Standard	Test	Result
2004/104/EC Annex VIII ECE Reg 10.2	Narrowband Emissions	Complied
2004/104/EC Annex VII ECE Reg 10.2	Broadband Emissions	Complied
2004/104/EC Annex IX ECE Reg 10.2	Radiated Immunity	Complied
2004/104/EC Annex X	Transient Pulses	Complied
2004/104/EC Annex X	Transient Emissions	Complied

Result

In the configuration tested the EUT complied with the specification.

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Test Results

General Comments

Details of the test methods used can be found in the SGS EMC procedures manual.

Modifications Made to the EUT.

No modifications were made to the EUT.

RADIATED EMISSIONS

OPERATING MODE

The system was tested in both the Armed and Disarmed modes, 12VDC Armed and 13.5 VDC Disarmed.

NARROWBAND & BROADBAND EMISSIONS

Tests were carried out in the vertical and horizontal antenna polarisation, for the above operating mode within an enclosed anechoic chamber.

EQUIPMENT USED.

1. Rohde & Schwarz Rxer. Ser. No. 825892/019
2. Automotive LISN.
3. Antennas 3110 & 3146.

PERFORMANCE CRITERIA

All emissions are at least 2 dB below the reference limits for the Vehicle Certification Agency approval.

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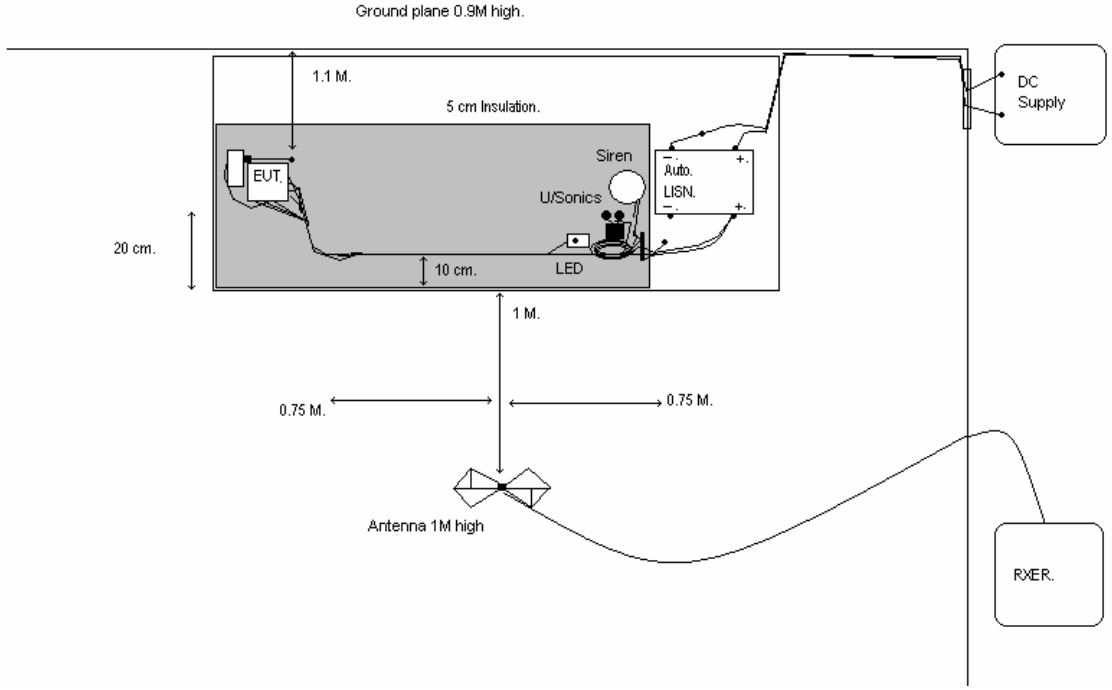
Test Configuration Radiated Emissions:



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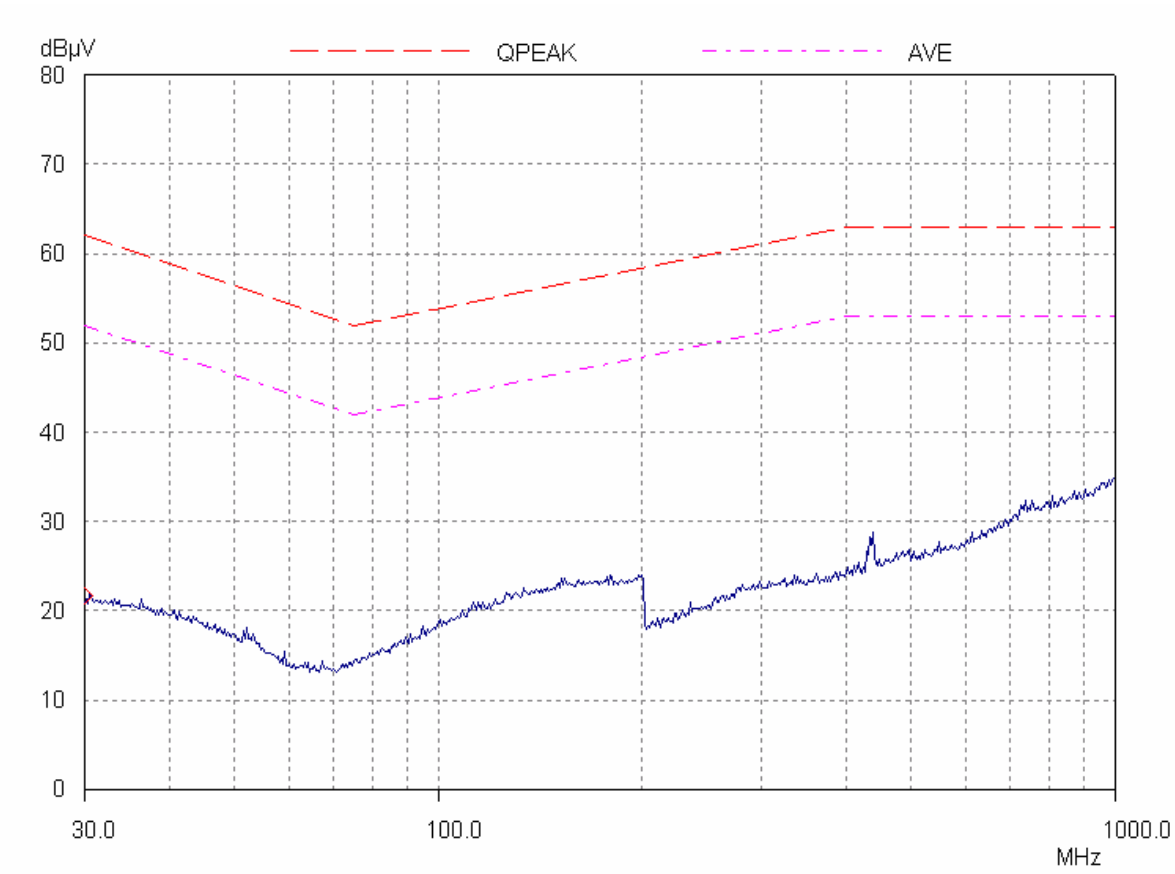
VER. POL. SCAN:

18 Dec 2007 11:46
J-FILE 114398/1.
VER. POL. PEAK SCAN.
Clifford 330X Alarm.
Directed Electronics Inc.
12VDC, in armed/set mode.
G.H.
2006/28/EC: 2006 – ECE REG 10.

Start	Stop Freq.	Step	IF BW	Detector	M-Time	Atten	PreAmp	OpRge
30MHz	1000MHz	60kHz	120kHz	PK	2msec	0 dB	OFF	60dB



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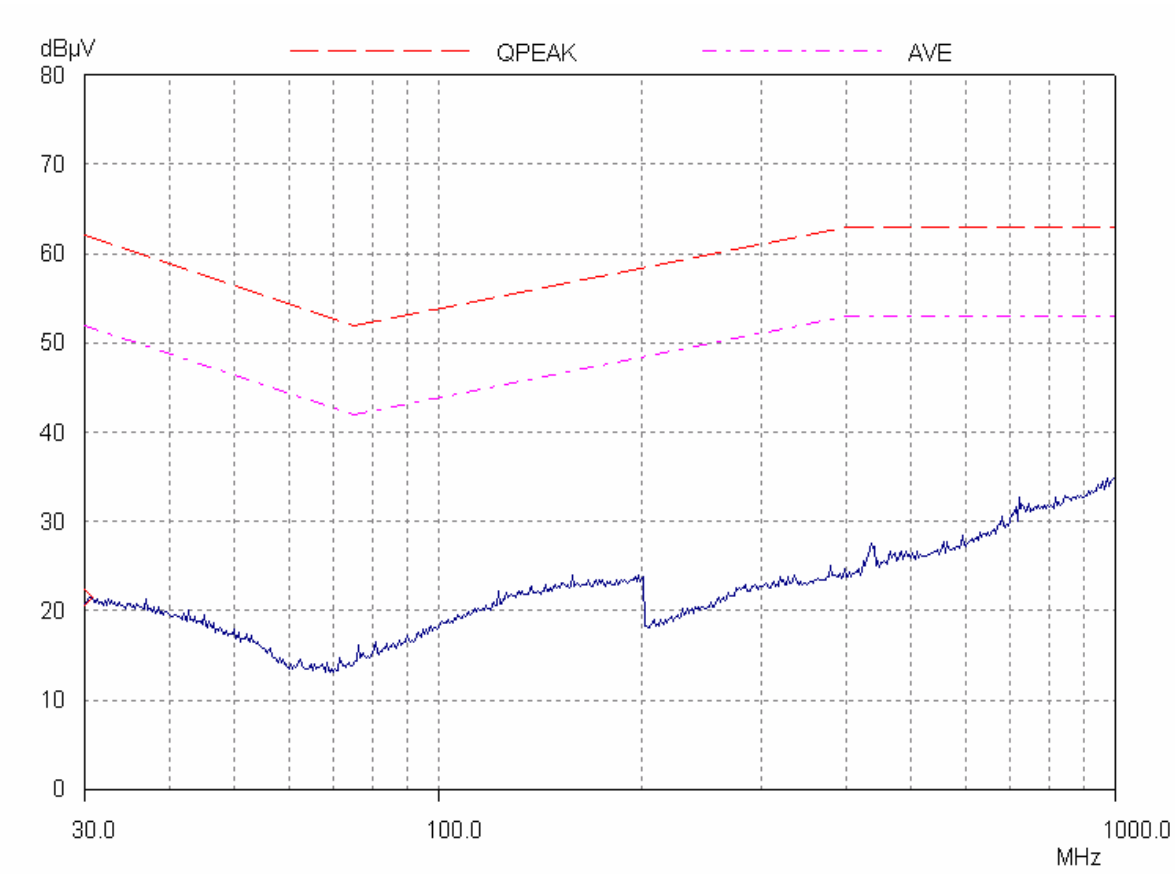
VER. POL. SCAN:

18 Dec 2007 12:15
J-FILE 114398/1.
VER. POL. PEAK SCAN.
Clifford 330X Alarm.
Directed Electronics Inc.
13.5VDC, disarmed/ignition on mode.
G.H.
2006/28/EC: 2006 – ECE REG 10.

Start	Stop Freq.	Step	IF BW	Detector	M-Time	Atten	PreAmp	OpRge
30MHz	1000MHz	60kHz	120kHz	PK	2msec	0 dB	OFF	60dB



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HOR. POL. SCAN:

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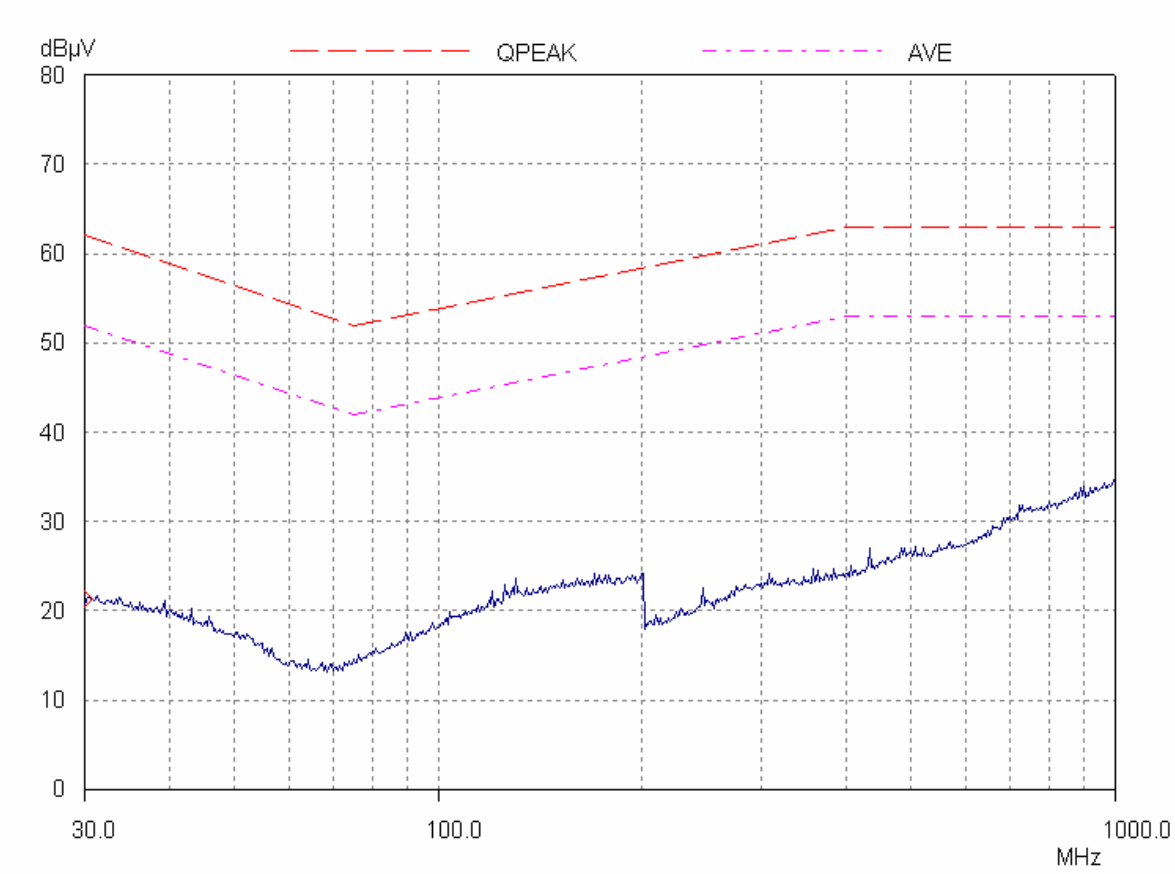
J-FILE 114398/1.
HOR. POL. PEAK SCAN.
Clifford 330X Alarm.
Directed Electronics Inc.
12VDC, in armed/set mode.
G.H.
2006/28/EC: 2006 – ECE REG 10.

Start	Stop Freq.	Step	IF BW	Detector	M-Time	Atten	PreAmp	OpRge
30MHz	1000MHz	60kHz	120kHz	PK	2msec	0 dB	OFF	60dB



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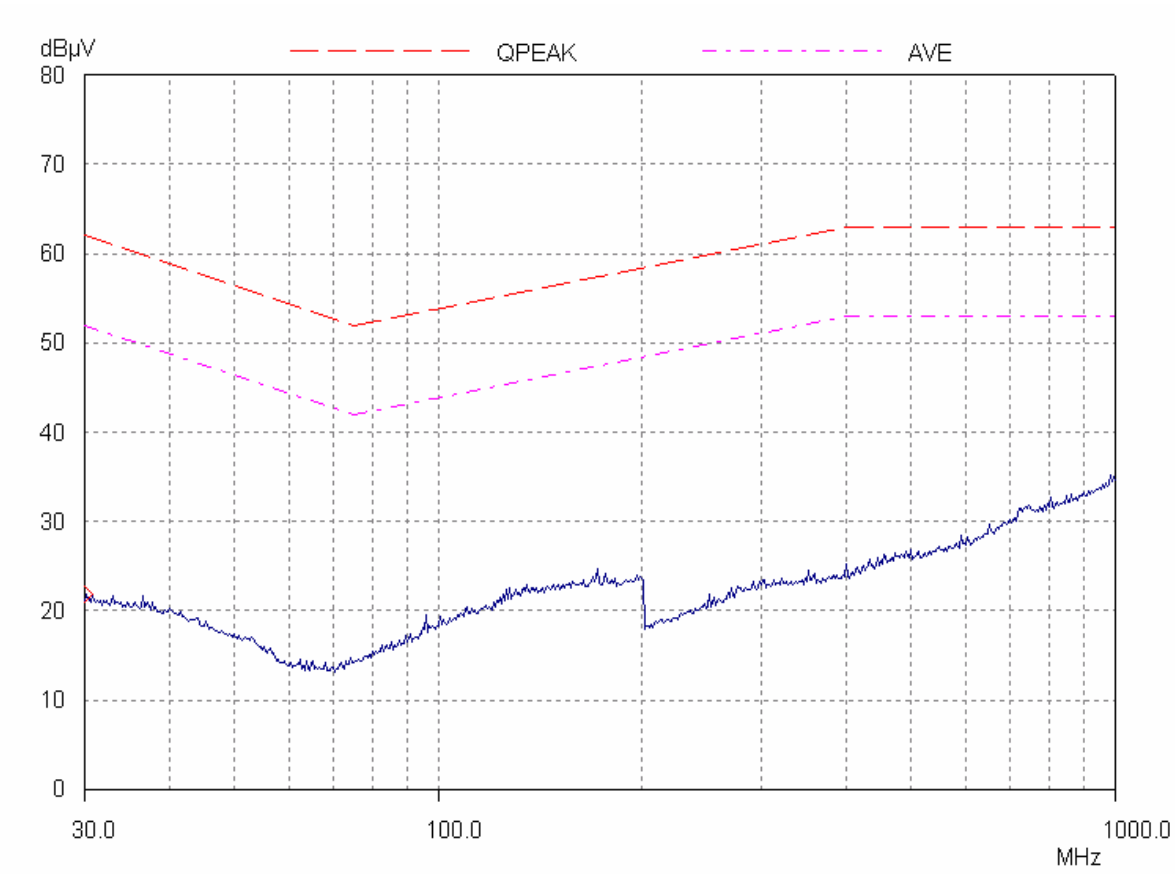
HOR. POL. PEAK SCAN.
Clifford 330X Alarm.
Directed Electronics Inc.
13.5VDC, disarmed/ignition on mode.
G.H.
2006/28/EC: 2006 – ECE REG 10.

Start	Stop Freq.	Step	IF BW	Detector	M-Time	Atten	PreAmp	OpRge
30MHz	1000MHz	60kHz	120kHz	PK	2msec	0 dB	OFF	60dB



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RADIATED IMMUNITY

OPERATING MODE

The system was tested in both the Armed and Disarmed modes, 12VDC Armed and 13.5 VDC Disarmed.

IMMUNITY TESTING

20 to 400MHz [BCI at 60 m-Amps] 400 to 2000MHz [Free field at 30 V/m]
20 to 800MHz with [1 kHz 80% AM] modulation & CW.
800 to 2000MHz with [pulsed “t on 577µsec, period 4600 µsec”] modulation
Dwell time: - was 2 seconds.

Tests were carried out in the above operating mode,

NB. In the anechoic chamber the antenna was in the vertical / horizontal polarisation.

EQUIPMENT USED.

Amplifier	250L
Amplifier	500W1000A
Amplifier	200T1G3A
Signal generator	2024
Isotropic field monitor	FM Radi-Sense RI-37
Probe	FP 04 RI-37
Power Meter	NVRS
Functional Generator	TG 1010
Spectrum Analyser	Anritsu
Calibration Clamp	FCC-BCICF4
Injection Clamp	F120-9A
50 Ohm Attenuator	8321
Auto LISN	NNBM

PERFORMANCE CRITERIA

The EUT shall not exhibit any malfunction which will cause any degradation of performance which could cause confusion to other road users or any degradation in the driver's direct control of a vehicle fitted with the system which could be observed by the driver or other road user.

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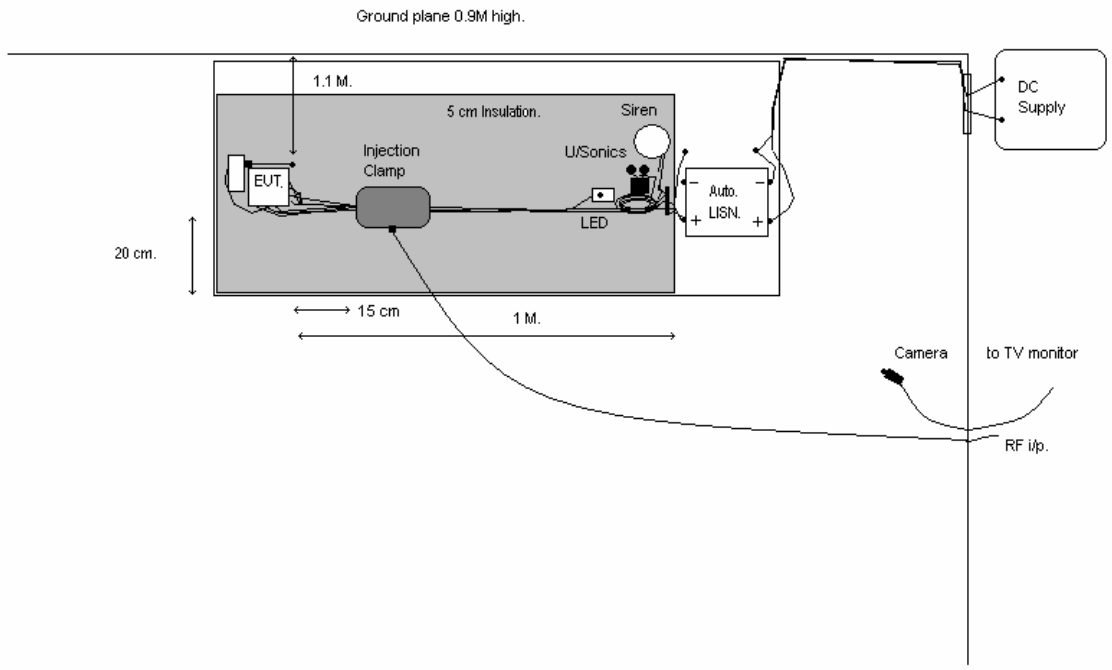
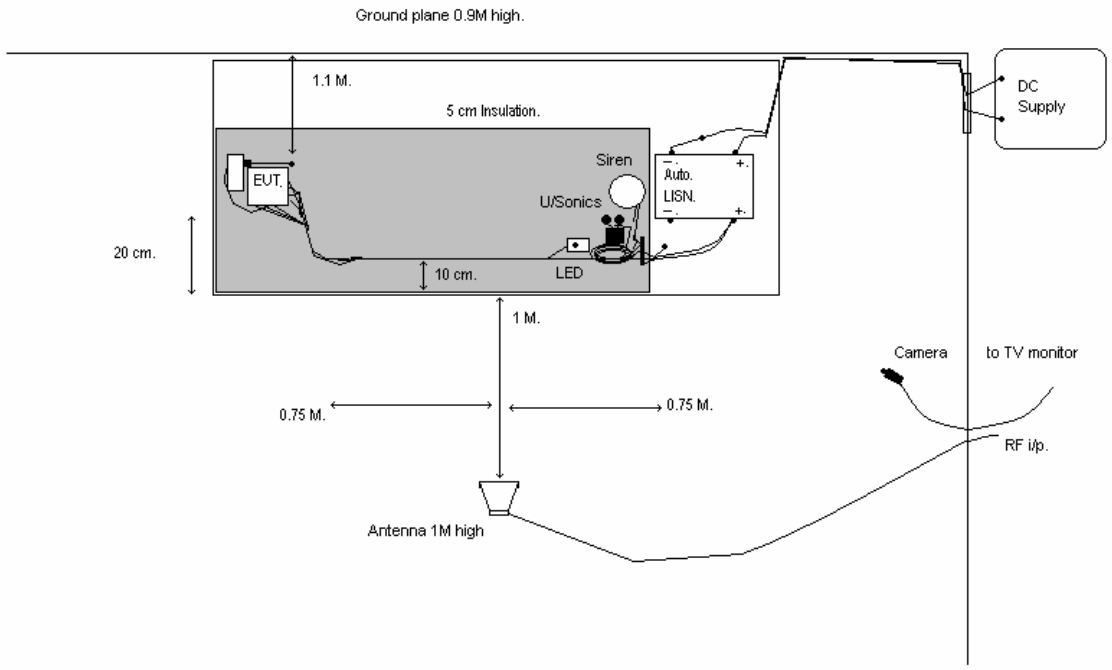
Test Configuration Radiated Immunity:
BCI.



Free-Field.



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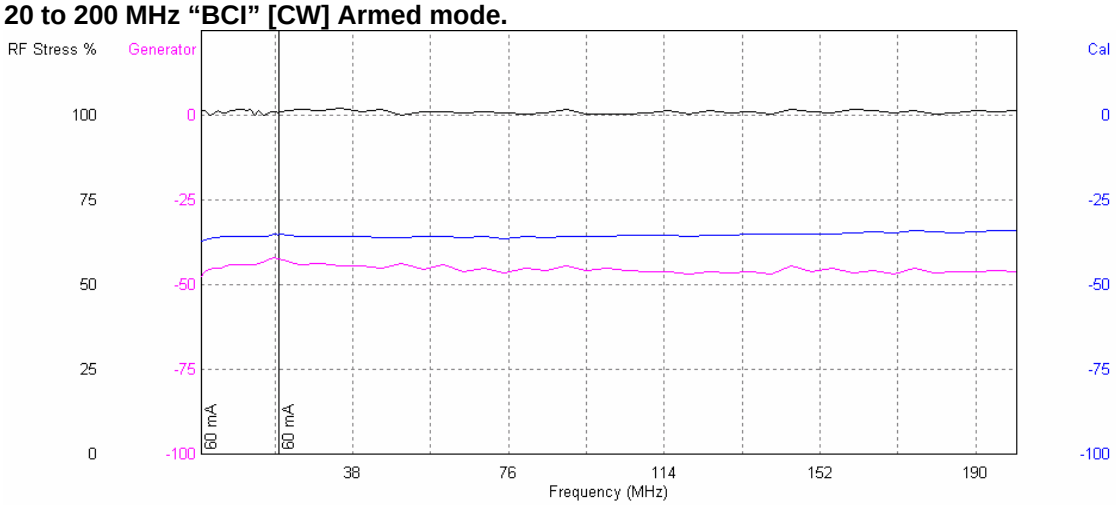
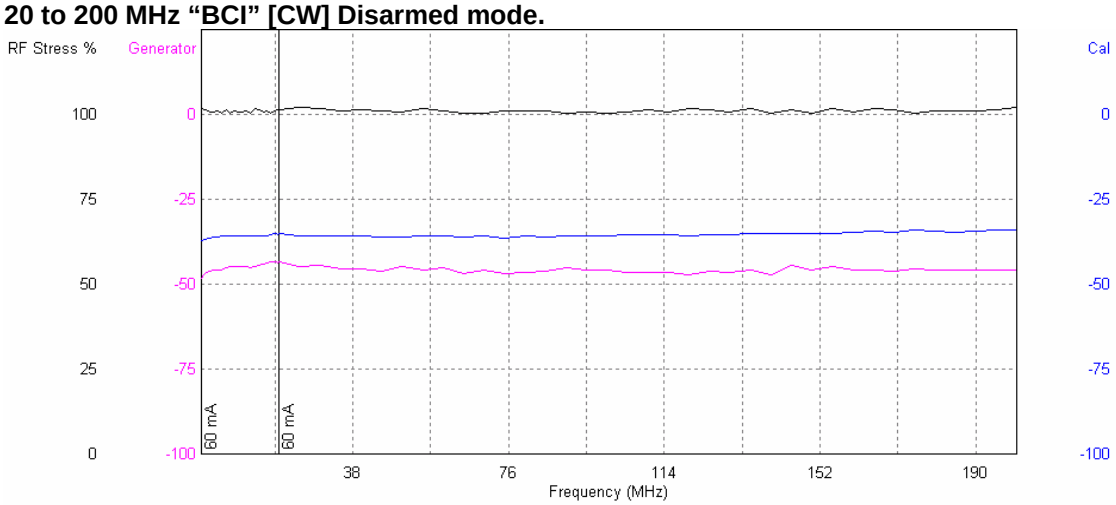
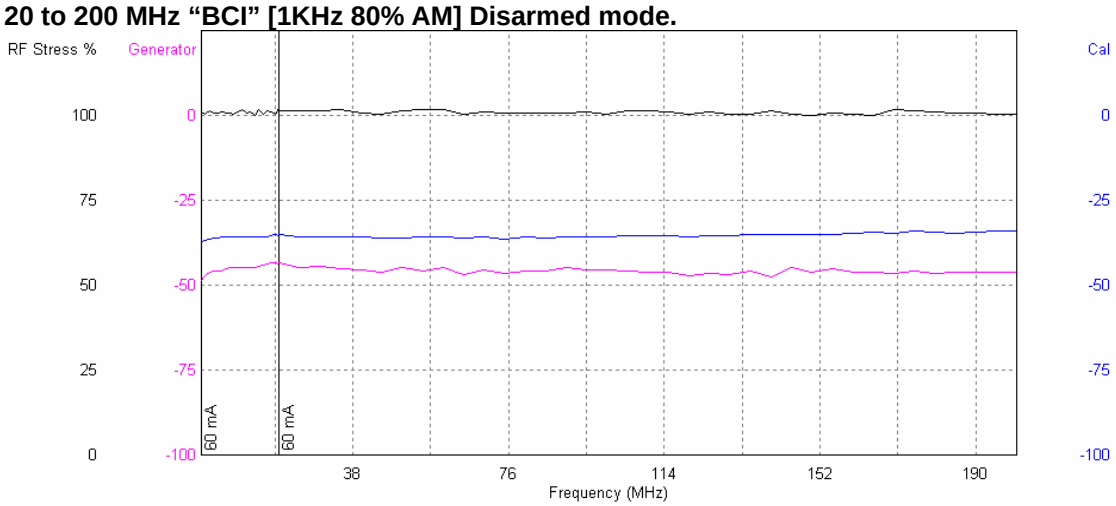
20 to 200 MHz "BCI" [CW] Armed mode.



20 to 200 MHz "BCI" [CW] Disarmed mode.



20 to 200 MHz "BCI" [1KHz 80% AM] Disarmed mode.



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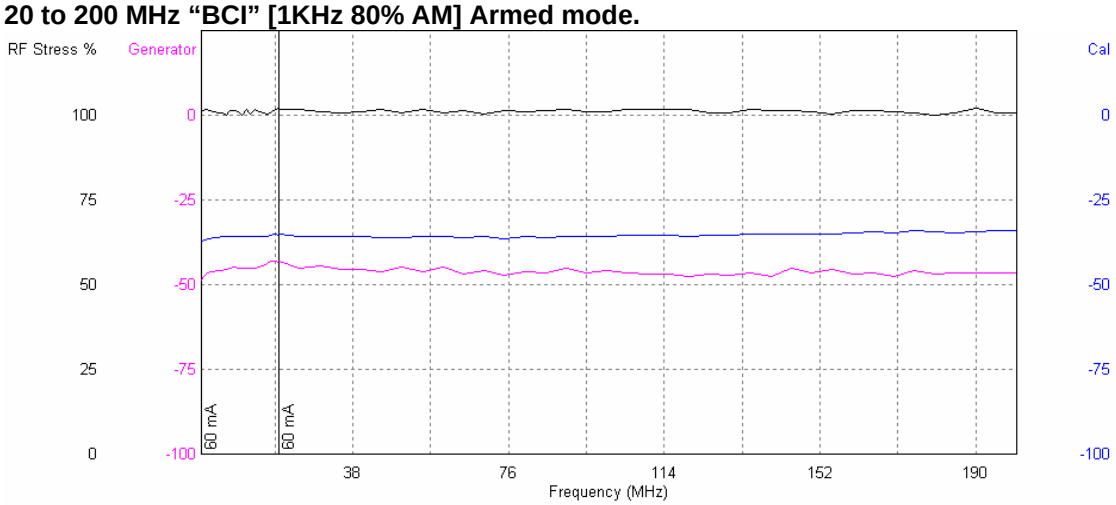
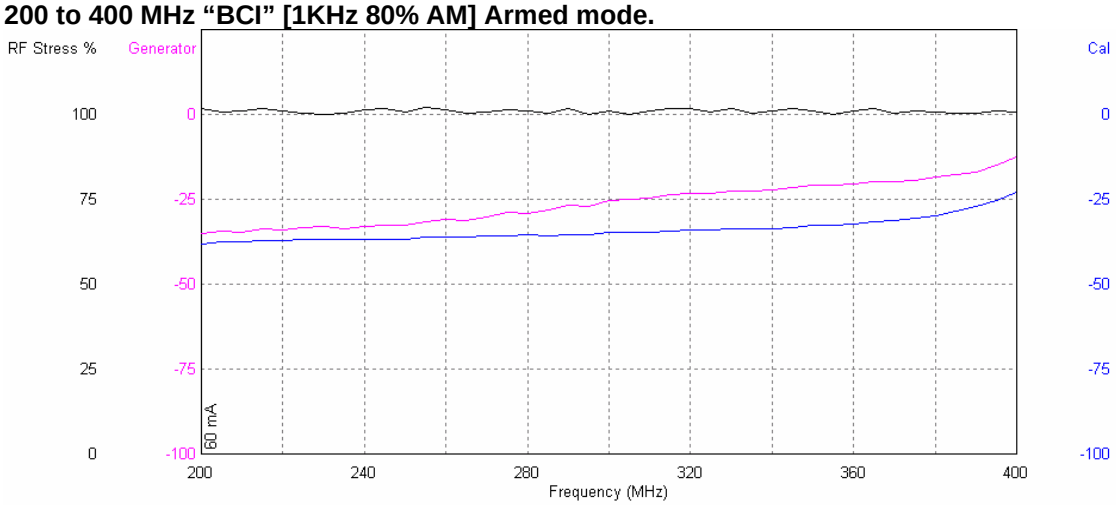
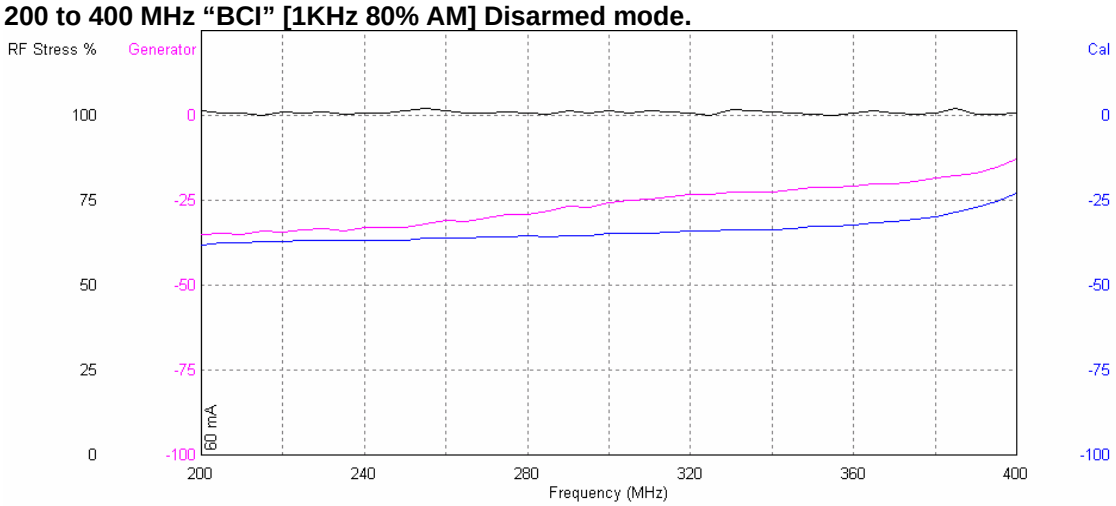
20 to 200 MHz "BCI" [1KHz 80% AM] Armed mode.



200 to 400 MHz "BCI" [1KHz 80% AM] Armed mode.



200 to 400 MHz "BCI" [1KHz 80% AM] Disarmed mode.



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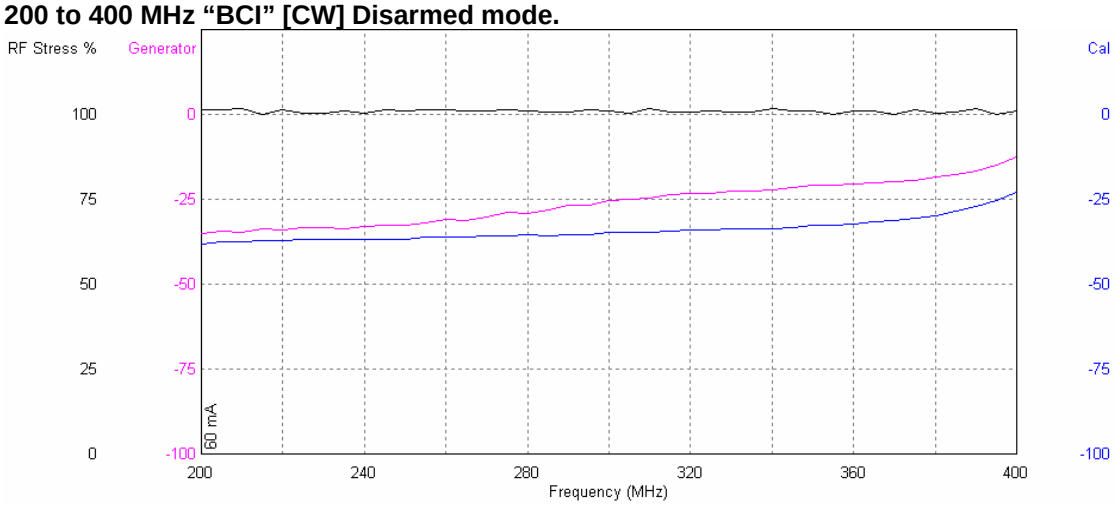
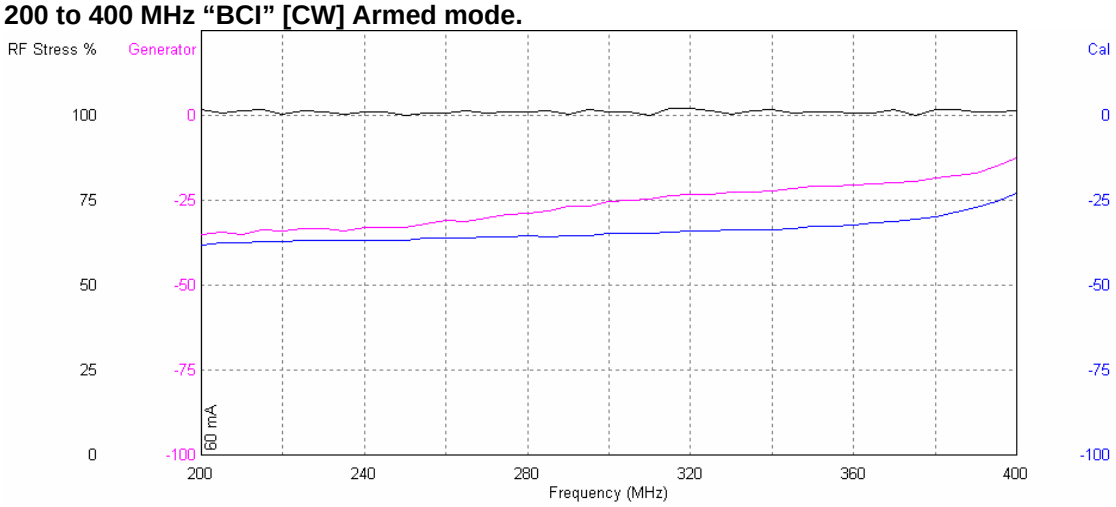
200 to 400 MHz "BCI" [CW] Disarmed mode.



200 to 400 MHz "BCI" [CW] Armed mode.



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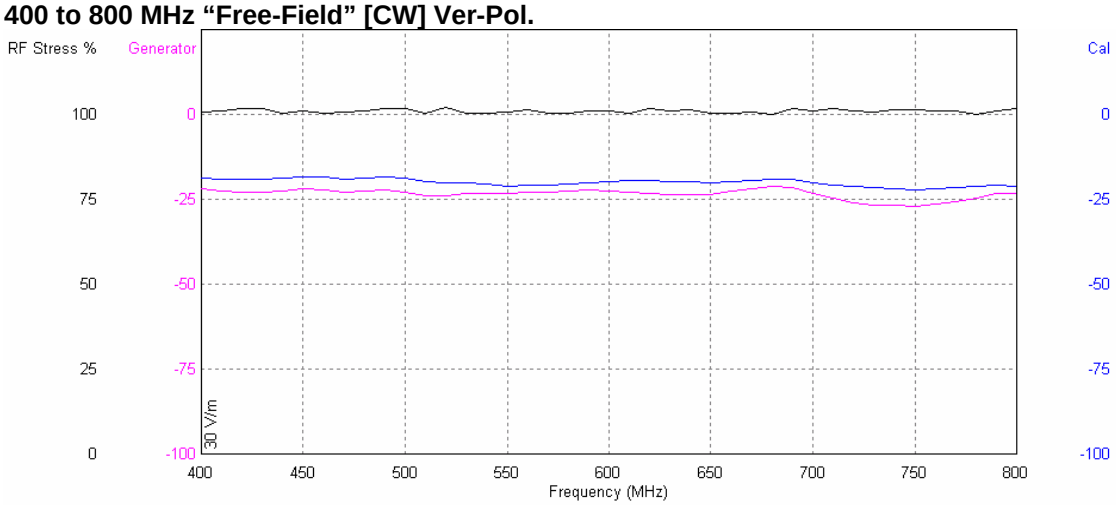
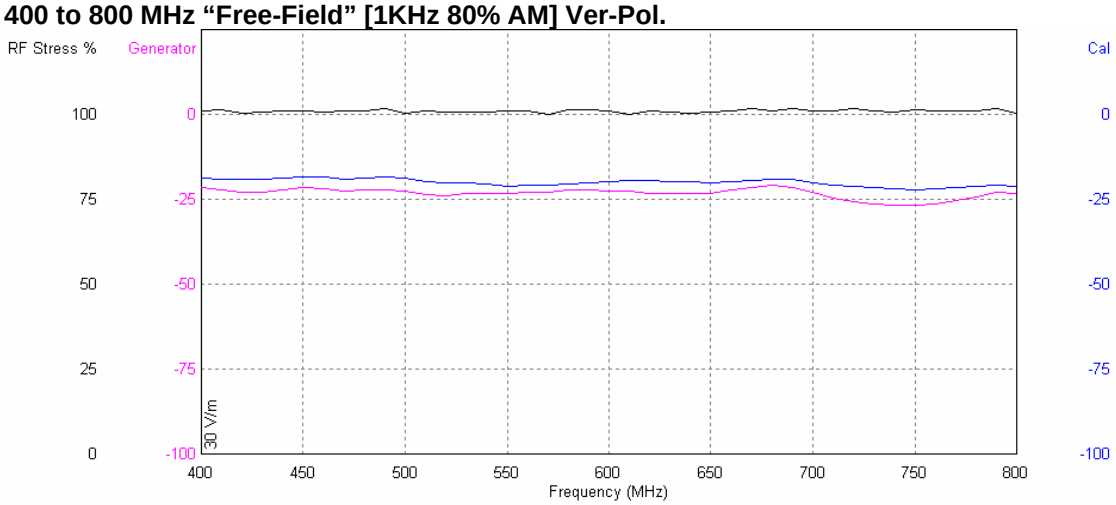
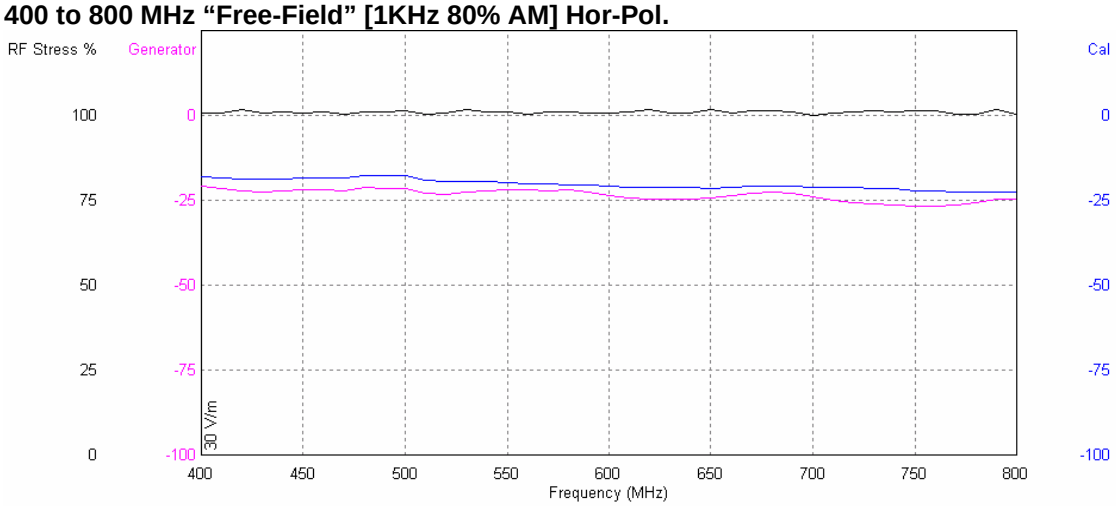
400 to 800 MHz "Free-Field" [CW] Ver-Pol.



400 to 800 MHz "Free-Field" [1KHz 80% AM] Ver-Pol.



400 to 800 MHz "Free-Field" [1KHz 80% AM] Hor-Pol.



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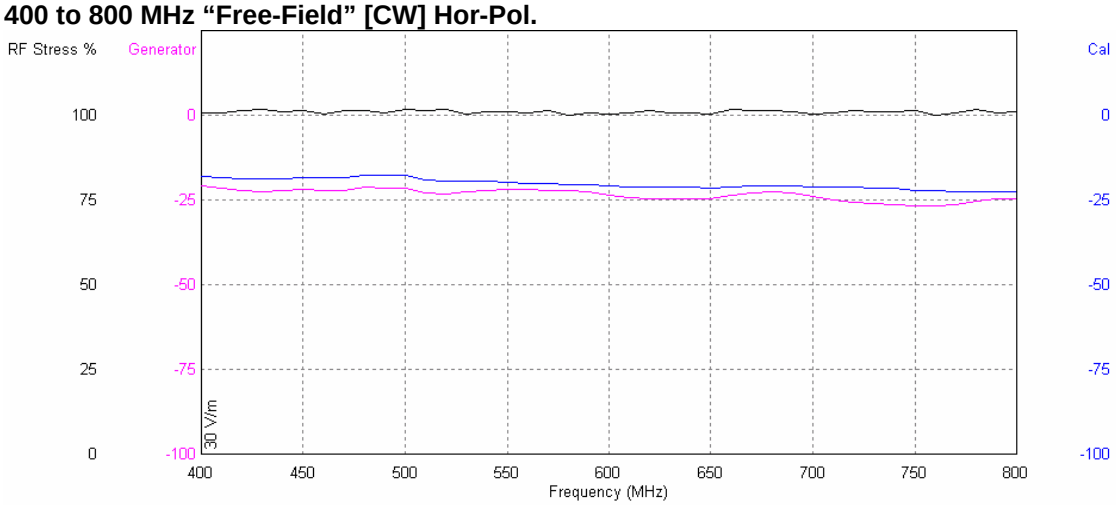
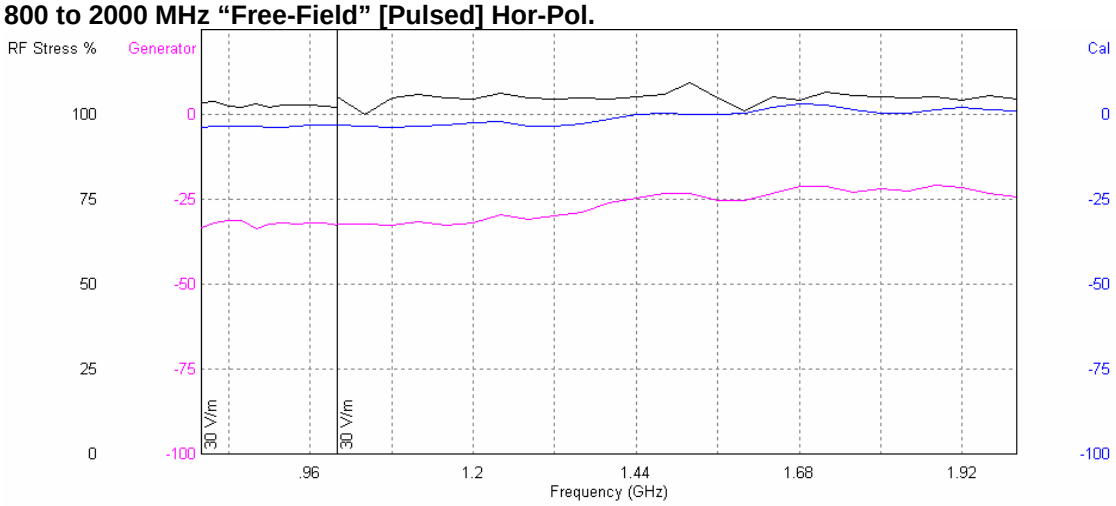
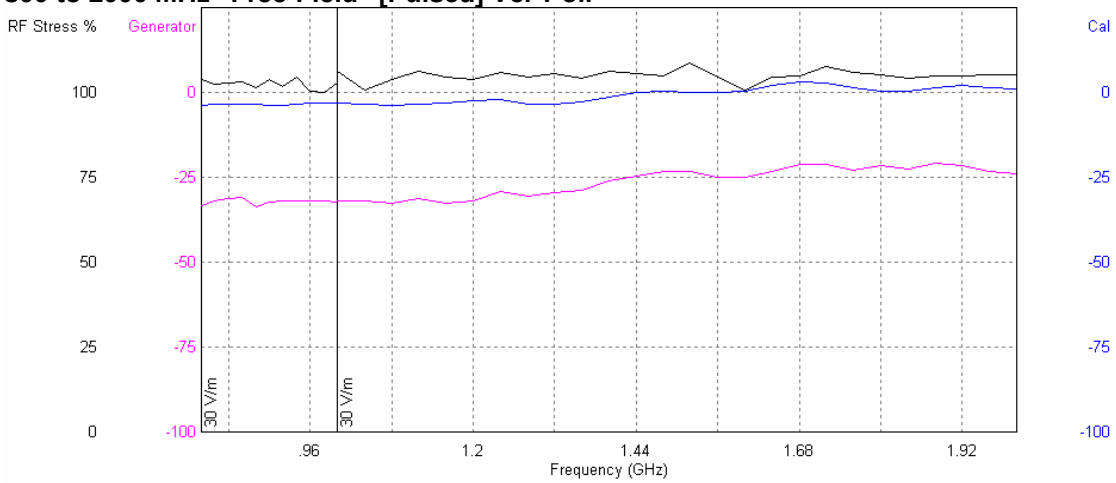
400 to 800 MHz "Free-Field" [CW] Hor-Pol.



800 to 2000 MHz "Free-Field" [Pulsed] Hor-Pol.



800 to 2000 MHz "Free-Field" [Pulsed] Ver-Pol.



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Transient Immunity

OPERATING MODE

The system was tested in the disarmed mode, 13.5 VDC.

Immunity Pulses 12 volt systems

Pulse Number.	Test Level	Number of pulse / time.	Pass / Fail
1.	-75V	5000	Class A Pass
2a	+37V	5000	Class A Pass
2b	+10V	10	Class A Pass
3a	-112V	1 hour	Class A Pass
3b	+75V	1 hour	Class A Pass
4	-6V	1 pulse	Class A Pass

EQUIPMENT USED.

Pulse generators	NSG 5000 NSG 5001 NSG 5003 NSG 5004 NSG 5005 NSG 5201 INA 5002/5025/5026 DCS 5230, ARB 5220, CTR 5210
Oscilloscope	Agilent 54810A

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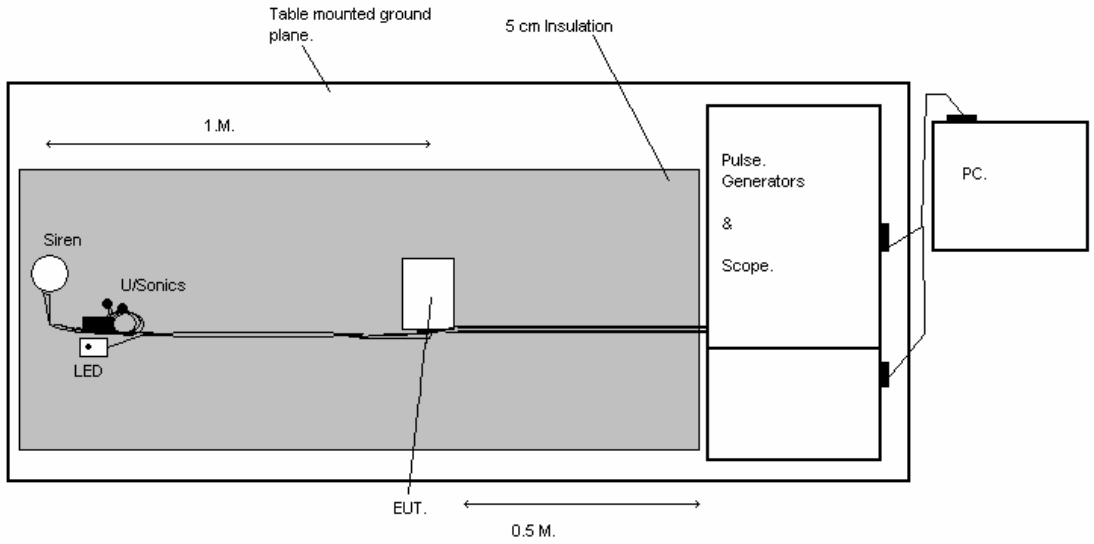
Test Configuration Transient Immunity:



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Test Report

AUT114398/1

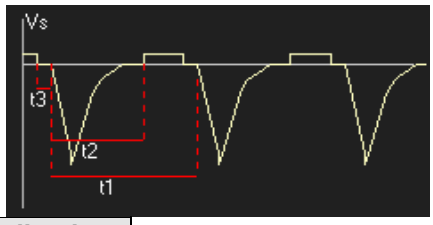
Date: 12-11-2007 **Time: 11/12/2007 07:43:09**

Company Name :	Directed Electronics Inc.
Equipment Tested :	CAT 2 to 1.
Serial Number :	Clifford 330X Alarm.
Test Equipment used :	Schaffner Generators
Test Procedure Used :	ISO 7637: 2: 2004

Test Number 1

Test Type Pulse 1 unset

Test Status Class A



Parameter	Operation	From	To	Step Size	Fail Value
Pulse Voltage (Us)	Static	-75V	---	---	---
Pulse Period (t1)	Static	.5Secs	---	---	---

Parameter	Value
Rise Time (tr)	1 us
Output Resistance (Ri)	10 ohms
Pulse Width (td)	2 ms
t2	200ms

Battery	
Battery State	Under Program Control
Voltage	13.5V
Current Limit	25A
End of Test Voltage	13.5V

Comments

System did not change state.

General Conditions

Ambient Temperature : 16 Humidity : 39 Pressure : 1015

Tested by : G. Hann

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Test Report

AUT114398/1

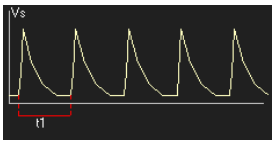
Date: 12-11-2007 **Time: 11/12/2007 08:29:31**

Company Name :	Directed Electronics Inc.
Equipment Tested :	CAT 2 to 1.
Serial Number :	Clifford 330X Alarm.
Test Equipment used :	Schaffner Generators
Test Procedure Used :	ISO 7637: 2.

Test Number 1

Test Type — Pulse 2a un-set

Test Status — Class A



Parameter	Operation	From	To	Step Size	Fail Value
Pulse Voltage (Us)	Static	37V	---	---	---
Pulse Period (t1)	Static	.5Secs	---	---	---

Parameter	Value
Rise Time (tr)	1 us
Output Resistance (Ri)	2 ohms
Pulse Width (td)	50 us
t2	Not Applicable

Battery	
Battery State	On
Voltage	13.5V
Current Limit	25A
End of Test Voltage	13.5V

Comments

System did not change state

General Conditions

Ambient Temperature :	19	Humidity :	39	Pressure :	1015
Tested by :	G. Hann				

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Test Report

AUT114398/1

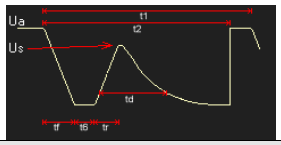
Date: 12-11-2007 **Time: 11/12/2007 09:36:02**

Company Name :	Directed Electronics Inc.
Equipment Tested :	CAT 2 to 1.
Serial Number :	Clifford 330X Alarm.
Test Equipment used :	Schaffner Generators
Test Procedure Used :	ISO 7637: 2.

Test Number 1

Test Type — Pulse 2b unset

Test Status — Class A



Voltage	
Ua	13.5V
Us	10V
Timing	
tf	1ms
t6	1ms
tr	1ms
td	220ms
t2	0.3s
t1	2s
Battery	
Current Limit	25A
End of Test Voltage	13.5V

Comments

System did not change state.

General Conditions

Ambient Temperature :	19	Humidity :	39	Pressure :	1015
Tested by :	G. Hann.				

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Test Report

AUT114398/1

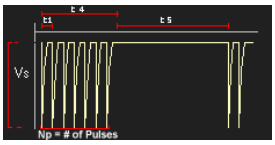
Date: 12-11-2007 **Time: 11/12/2007 10:40:29**

Company Name :	Directed Electronics Inc.
Equipment Tested :	CAT 2 to 1.
Serial Number :	Clifford 330X Alarm.
Test Equipment used :	Schaffner Generators
Test Procedure Used :	ISO 7637: 2: 2004

Test Number 1

Test Type — Pulse 3a unset

Test Status — Class A



Parameter	Operation	From	To	Step Size	Fail Value
Pulse Voltage (Us)	Static	112V	---	---	---
Pulse Freq (1/t1)	Static	10kHz	---	---	---
Polarity	Static	0	---	---	---

Parameter	Value
Rise Time (tr)	5ns
Output Resistance (Ri)	50ohms
Pulse Width (td)	100ns
Burst Interval(t5)	.09Seconds

No Pulses (t4/t1)	
No of Pulses (Np)	100
Burst Duration (t4)	10ms
Battery	
Battery State	On
Voltage	13.5V
Current Limit	25A
End of Test Voltage	13.5V

Comments

System did not change state.

General Conditions

Ambient Temperature :	19	Humidity :	39	Pressure :	1015
Tested by :	G. Hann.				

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28-Feb-08
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Test Report

AUT114398/1

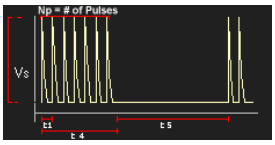
Date: 12-11-2007 **Time: 11/12/2007 12:47:01**

Company Name :	Directed Electronics Inc.
Equipment Tested :	CAT 2 to 1.
Serial Number :	Clifford 330X Alarm.
Test Equipment used :	Schaffner Generators
Test Procedure Used :	ISO 7637: 2: 2004

Test Number 1

Test Type — Pulse 3b unset.

Test Status — Class A



Parameter	Operation	From	To	Step Size	Fail Value
Pulse Voltage (Us)	Static	112V	---	---	---
Pulse Freq (1/t1)	Static	10kHz	---	---	---
Polarity	Static	0	---	---	---

Parameter	Value
Rise Time (tr)	5ns
Output Resistance (Ri)	50ohms
Pulse Width (td)	100ns
Burst Interval(t5)	.09s

No Pulses (t4/t1)	
No of Pulses (Np)	100
Burst Duration (t4)	10ms
Battery	
Battery State	On
Voltage	13.5V
Current Limit	25A
End of Test Voltage	13.5V

Comments

System did not change state.

General Conditions

Ambient Temperature :	19	Humidity :	39	Pressure :	1015
Tested by :	G. Hann.				

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Test Report

AUT114398/1

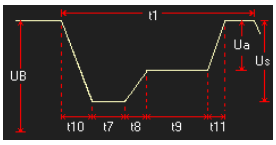
Date: 12-11-2007 **Time: 11/12/2007 14:02:15**

Company Name :	Directed Electronics Inc.
Equipment Tested :	CAT 2 to 1.
Serial Number :	Clifford 330X Alarm.
Test Equipment used :	Schaffner Generators
Test Procedure Used :	ISO 7637: 2: 2004

Test Number 1

Test Type — Pulse 4 unset.

Test Status — Class A



Parameter	Value
Resistance(Ri)	0.01 Ohms

Voltage	
Ua	8.5V
Us	7.5V
UB	13.5V
Timing	
t10	5ms
t7	40ms
t8	40ms
t9	20s
t11	100ms
t12	1s
Battery	
Current Limit	25A
End of Test Voltage	13.5V

Comments

System did not change state.

General Conditions

Ambient Temperature :	19	Humidity :	39	Pressure :	1015
Tested by :	G. Hann.				

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Transient Emissions

OPERATING MODE

The system was tested in the disarmed mode, 12VDC vehicle battery as the supply.

Emissions Pulse maximum amplitude 12 volt systems

Pulse polarity.	Maximum Level	Pass / Fail
Positive	+75V	Pass
Negative	-100V	Pass

EQUIPMENT USED.

Automotive LISN
Switch. 30 Amp Relay
R-load 40 Ohm resistor
Oscilloscope Agilent

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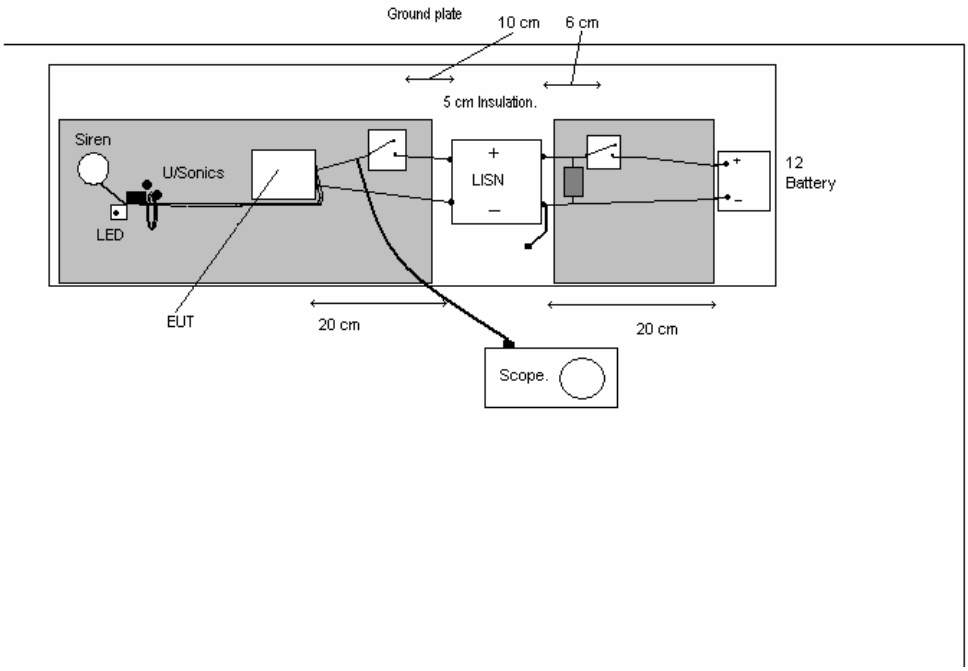
Test Configuration Transient Emission:



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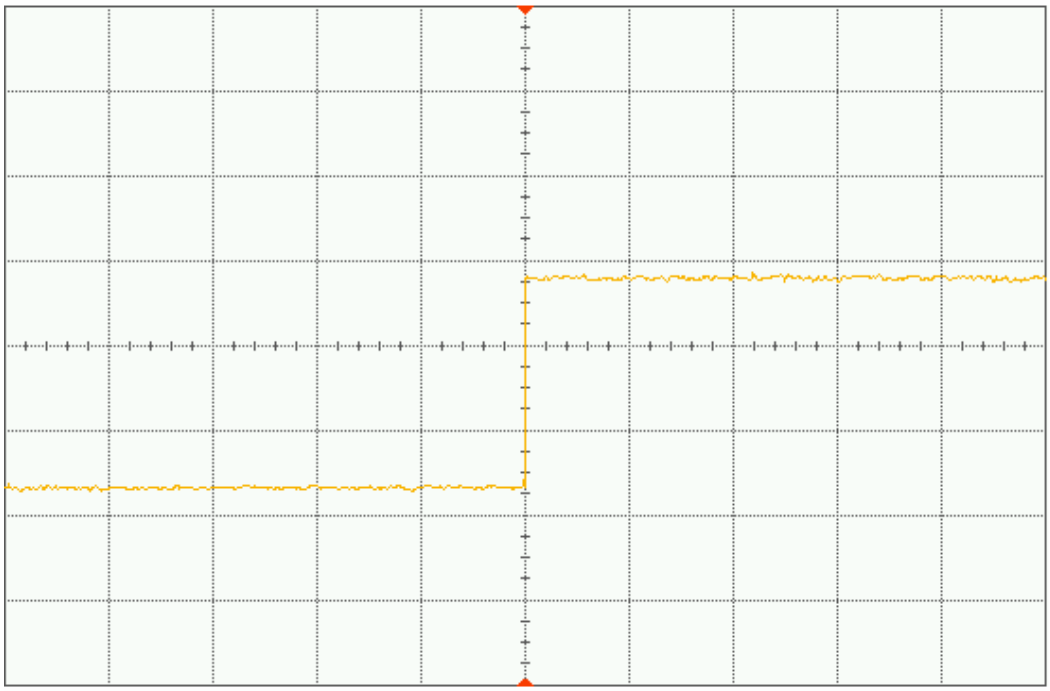
Switching on.

Saved: 20 DEC 2007 14:04:47



Acquisition	Sampling mode real time Memory depth automatic Memory depth 1004pts Sampling rate automatic Sampling rate 10.0 kSa/s Averaging off 9-bit BW Filter off Interpolation on
Channel 1	Scale 50 mV/div Offset 83.9 mV BW limit off Coupling DC Impedance 1M Ohm Attenuation 1.000 : 1 Atten units ratio Skew 0.0 s Ext adaptor None Ext gain 1.00 V Ext offset 0.0 V
Time base	Scale 10.0 ms/div Position -14.071079 µs Reference center
Trigger	Mode edge Sweep triggered Hysteresis normal Holdoff time 60 ns Coupling DC Source channel 1 Trigger level 119.9 mV Slope rising

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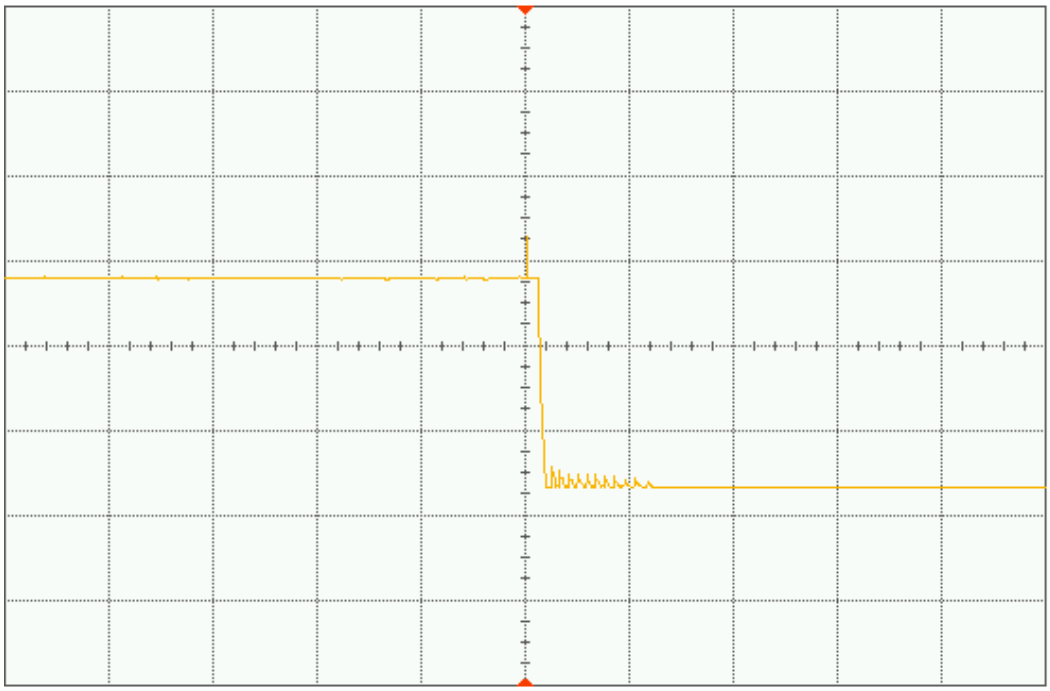
Switching off.

Saved: 20 DEC 2007 14:03:26



Acquisition	Sampling mode real time Memory depth automatic Memory depth 1004pts Sampling rate automatic Sampling rate 10.0 kSa/s Averaging off 9-bit BW Filter off Interpolation on
Channel 1	Scale 50 mV/div Offset 83.9 mV BW limit off Coupling DC Impedance 1M Ohm Attenuation 1.000 : 1 Atten units ratio Skew 0.0 s Ext adaptor None Ext gain 1.00 V Ext offset 0.0 V
Time base	Scale 10.0 ms/div Position -14.071079 µs Reference center
Trigger	Mode edge Sweep triggered Hysteresis normal Holdoff time 60 ns Coupling DC Source channel 1 Trigger level 119.9 mV Slope falling

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TEST REPORT

Automotive

Test of :	Vehicle Security System – Alarm.
Model Number :	Clifford 330X. Alarm.
SGS Reference :	AUT114398/2/GT/07.
VCA Reference :	EAH.183969.
Applicant :	Directed Electronics Inc.
Test Specification :	95/56/EC annex VI* ECE REG 97 part 1*.
Date of Receipt :	29th November 2007.
Date of Test(s) :	29th November to 31st December 2007.
Date of Issue :	31st December 2007.
Issue No :	One.
Conclusion :	The samples tested were found to comply with the standards.

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Tests marked:"" are not covered by our UKAS accreditation.*

Signature	Signature
Test Engineer	***Authorised Signatory***
G. Hann ~~G. Thompson~~	~~F. Huggins~~ ~~A. Reynard~~ G. Hann

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1. Client Information

Company Name:	Directed Electronics Inc.
Address:	Unit C, Longmead Business Centre, Blenheim Road, Epsom, Surrey, KT19. 9QQ.
Contact Name:	Carl Huntington
Telephone:	+44 (0) 1372 847147
Facsimile:	+44 (0) 1372 847149

2. Equipment Under Test (EUT)

2.1 Identification of EUT

Model Number:	Clifford 330X Alarm.
Unique Identifier:	Not supplied by the client.
Description of EUT:	Vehicle alarm system, which operates from the vehicle CAN data, with battery back up siren, and sensors – Ignition, doors/boot/bonnet & ultrasonic movement. The system also has a built in shock sensor, and an output to trigger a single immobiliser circuit.
Supply Voltage:	12 volts DC.
Accessories Supplied:	A Viper 350 HV module was used for the “CAN” data to operate the alarm system.

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3. Purpose of Tests

To perform the relevant tests and assess the product for compliance with the above specification.

4. Deviations or Exclusions from the Test Specifications

There were no deviations from the test specifications.

5. Operation of the EUT During Testing

5.1 Configuration and Peripherals

Peripheral or support equipment was required for the tests.
A Viper 350 HV module was used for the “CAN” data to operate the alarm system.

5.2 Operating Mode and Environmental Conditions

The operating modes and environmental conditions used for each individual test are described in the test results section of this report.

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Methods and Procedures

The following tests are called up by the test specifications:-

Standard	Date	Description	Applicable
95/56/EC	1995	Annex V. Immobilizers.	N/A.
95/56/EC R 97 Part 1.	1995	Annex VI. Alarms Systems.	Yes.
95/56/EC	1995	Appendix 4. Audible Alarm Devices.	Yes.

Deviations or Exclusions from the Test Specifications

Measurements were performed in accordance with the requirements of the above specifications.

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Operation of E.U.T. During Testing

Operating Environment

Power Supply:	Volts	12/13.5 VDC

Environmental conditions:-

Temperature:	^{o}C	18.5 - 19
Relative Humidity:	%	33 - 43
Barometric Pressure:	mbar	1001 - 1024

Configuration & Peripherals

Peripherals were attached to the EUT during testing.
A Viper 350 HV module was used for the “CAN” data to operate the alarm system.

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Summary of Test Results

Standard	Test	Result
95/56/EC	Annex V. Immobilizers.	N/A.
95/56/EC R 97 Part 1.	Annex VI. Alarms Systems.	Complied
95/56/EC	Appendix 4. Audible Alarm Devices.	Complied

Result

In the configuration tested the EUT complied with the specifications.

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Test Results

General Comments

Details of the test methods used can be found in the SGS EMC procedures manual.

Modifications Made to the EUT.

No modifications were made to the EUT.

ANNEX V. Immobilizer.

OPERATING MODE

N/A.

Specifications

General - 3.1 to 3.9	~~Complied~~ / N/A.
Disablement - 4.1 to 4.1.2	~~Complied~~ / N/A.
Operation - 4.2 to 4.6.2	~~Complied~~ / N/A.
Instructions - 6.1 to 6.6	~~Complied~~ / N/A.

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TEST CONDITIONS and OPERATING PARAMETERS.

The following clauses can be tested on an Alarm-Immobiliser at the same time as well as to an Immobiliser, or an Alarm System.

5.2.2.1. Low Temperature (-40C) and Low Voltage (9 volts).
COMPLIED / ~~DID NOT COMPLY. / N/A~~.

5.2.2.2. High Temperature (85C Passenger compartment) and High Voltage (15 volts)
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

5.2.2.3. High Temperature (125C Engine compartment) and High Voltage (15 volts)
~~COMPLIED / DID NOT COMPLY~~. / N/A.

5.2.2.4. Excess Voltage test (18 volts for 1 Hr.)
COMPLIED / ~~DID NOT COMPLY. / N/A~~.

5.2.2.5. Excess Voltage test (24 volts for 1 Min.)
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

5.2.3. Test for water tightness and foreign body.
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

5.2.4. Resistance to humidity test.
COMPLIED / ~~DID NOT COMPLY. / N/A~~.

5.2.5. Reversed polarity test (13 volts for 2 Min.).
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

5.2.6. Test against Short Circuits (13 volts and earth/negative.)
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

5.2.7. Current consumption in SET condition. (Max: 20 m-Amps.)
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

5.2.8.1. Vibration test.
COMPLIED / ~~DID NOT COMPLY / N/A.~~

5.2.8.2.1. Type 1 components mounted on the vehicle.
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

5.2.8.2.2. Type 2 components mounted on the engine.
~~COMPLIED / DID NOT COMPLY.~~ / N/A.

5.2.12. EMC tests, to 2006/28/EC & REG 10.2, ISO 7637 Parts 2 & 3 & ISO 10605.
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

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ANNEX VI. Alarms

OPERATING MODE

1. The alarm system was operated in two modes – 1] 12VDC "Armed". 2] 13.5VDC "Disarmed".

Specifications

General - 3.1 to 3.10	Complied / ~~Did not Comply~~
Protection - 4.1 to 4.1.2.2	Complied / ~~Did not Comply~~
Alarm - 4.2 to 4.11.2	Complied / ~~Did not Comply~~
Instructions - 6.1 to 6.7	Complied / ~~Did not Comply~~

TEST CONDITIONS and OPERATING PARAMETERS.

The following clauses can be tested on an Alarm-Immobiliser at the same time as well to an Alarm System.

5.2.9. Durability test. Triggering of the alarm 300 complete cycles, with a rest time for the audible device of 5 min. between each trigger/ cycle.
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

5.2.10.1. External key Switch. Set and unset 2500 times in each direction, followed by a salt spray corrosion test of 96 hours to IEC 68-2-11: 1981.
~~COMPLIED / DID NOT COMPLY.~~ / N/A.

5.2.11. Protection of passenger compartment. A vertical panel of 0.2 by 0.15 M. is inserted for 0.3m through an open front window into the passenger compartment at a speed of 0.4 m/sec. at an angel of 45▫. The alarm shall activate.
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

5.2.13. False Alarm in the event of an impact on the vehicle. An impact to the bodywork, or glazing of the vehicle, of 4.5 Joules by a hemispherical body 165mm diameter and of 70 +/- 10 Shore A. Shall not cause an alarm condition.
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

5.2.14. False alarm in the event of a voltage reduction. With the alarm system set, slowly reduce the voltage from 12 volts to 3 volts at a rate of 0.5 volt per hour. There shall be no false alarms.
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

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Continued

TEST CONDITIONS and OPERATING PARAMETERS.

The following clauses can be tested on an Alarm-Immobilizer at the same time as well as an Alarm System.

5.2.15. False alarm to the passenger compartment. Using the set-up as for clause 5.2.13. (above), impact the vehicle 5 times at 0.5 second intervals:- there shall be no false alarms.
Also when a person is moving around the protected vehicle or touching the windows/vehicle from the out side there shall be no false alarms.

COMPLIED / ~~DID NOT COMPLY. / N/A.~~

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APPENDIX IV. Audible Alarm Devices

OPERATING MODE

1. The Siren "back-up" unit was supplied from 13 volts DC.

Specifications

General –

2.1 to 2.1.6. Measurement of sound: characteristics.
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

2.1.7. Sound pressure level. Shall not exceed 118dB(A).
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

2.1.7.1. Between the frequencies 1800 to 3500 Hz the level shall be greater or equal to 105 dB(A)
N.B. 100dB(A). "If not the original audible sound device".
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

2.1.8. The levels of 2.1.7 & 2.1.7.1 above shall also be meet with a supply voltage varying between 95 to 115 % of the rated supplied voltage.
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

2.1.9. From the moment of activation to the minimum level recorded for 2.1.7. above, shall not be more than 0.2 of a second.
COMPLIED / ~~DID NOT COMPLY. / N/A~~.

3.1 to **3.5.** Endurance testing.
the audible warning device shall be activated 50,000 times on for 1 second off for 4 seconds. During the test, the 95 to 115% test of clause 2.1.8. shall be conducted, and on completion of the 50,000 cycles the level s of 2.1.7. shall be checked.
COMPLIED / ~~DID NOT COMPLY. / N/A.~~

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