



V660 HDD EVO

HARD DRIVE DEGAUSSER



VS SECURITY PRODUCTS LTD

V660 HDD EVO

OPERATING MANUAL

PRODUCTION STANDARD

ZZ009167 - 220-240v 50Hz

ZZ009171 - 208-220v 60Hz



WARNING

THIS UNIT EMITS A STRONG MAGNETIC FIELD. REMOVE WRIST WATCHES BEFORE USE. PERSONNEL FITTED WITH A CARDIAC PACEMAKER SHOULD NOT STAND WITHIN 2 METRES OF THE UNIT. OPERATING PERIODS IN EXCESS OF SPECIFIED DURATION WILL RESULT IN EXTERIOR SURFACES BECOMING VERY HOT.

TO HELP MINIMISE THE POSSIBILITY OF ELECTRICAL SHOCK HAZARDS UNDER NO CIRCUMSTANCES SHOULD ANY PANELS BE REMOVED.

CAUTION

IT IS RECOMMENDED THAT MAGNETIC STORAGE MEDIA IS KEPT AT LEAST 2 METRES (6 FEET) FROM THE DEGAUSSER

IMPORTANT

THE POWER ON/OFF SWITCH USED ON THIS EQUIPMENT IS NOT AN ISOLATING SWITCH. IT IS RECOMMENDED THAT THIS EQUIPMENT SHOULD BE OPERATED FROM A SEPARATE SWITCHED ISOLATOR WHICH SHOULD BE LOCATED CLOSE TO THE UNIT AND WITHIN REACH OF THE OPERATOR.

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CONTENTS

SECTION	PAGE
1. SPECIFICATION	4
2. INTRODUCTION TO THE V660 HDD EVO	5
3. INSTALLATION	5
4. OPERATION	6
5. INDICATORS / FEATURES	8
6. MAINTENANCE / SERVICE	9
7. TABLES	10
8. PARTS LIST	11

This document refers to V92 DIGI Tapemaster part no's;

**ZZ009154 220-240v 50Hz
ZZ009157 110-115v 60Hz**

SECTION 1: SPECIFICATION

MEDIA HANDLING	Standard Hard Drives – PC, Laptop and Server 3.5", 2.5" & 1.8", Longitudinal & perpendicular recording up to 2 TB. All Drive interfaces IDE, SATA, SAS and Fibre Channel. All Backup tapes including DLT,2,3,4,5,6 & SDLT, LTO1,2,3,4,5,6 & 7; 3480/3490/3490E, 3590, 9840 & T9940 & T10000 tape; Ultrium & Redwood SD-3 tape & cartridges; Mammoth 1 & 2, 8mm, AIT1 & 2, M2 tape; DDS 1,2,3,4 & 5, DD-2.
DUTY CYCLE	20% (Dependant on ambient temperature)
RUN TIME	2 minutes typical
ERASURE TIME	20 seconds typical
OPERATING VOLTAGE	220-240v, 50Hz (ZZ009167) 208-220v, 60Hz (ZZ009171)
CURRENT	10 amps typical 220-240v 50Hz 12 amps typical 208-220v 60Hz
CIRCUIT BREAKER	10A (50Hz) / 16A (60Hz)
MOUNTING	Free standing table top
DIMENSIONS	19" x 16.5" x 7" (48cm x 42cm x 18cm)
DIMENSIONS (PACKED)	25.5" x 20.8" x 10.6" (65cm x 53cm x 27cm)
WEIGHT	57 lbs (26kg)
WEIGHT (PACKED)	62 lbs (28kg)



ENVIRONMENTAL PROTECTION

This product must not be disposed of with household waste. You are responsible for ensuring and financing all costs of collection, treatment, recovery and environmentally sound disposal of the goods in accordance with the WEEE directive.

Registered Producer Number: WEE/JB2622WS

VS Security Products reserves the right to amend or modify the specifications and design criteria applying to these products

SECTION 2: INTRODUCTION TO THE V660 HDD EVO

The V660 HDD EVO degausser functions like a large electro magnet, its erasing field originating as leakage flux from a large gap in the field structure, the V660 HDD EVO structure is basically a U section. The field intensity decreases rapidly as the distance from the degausser surface increases. For example at a distance of approximately 2.75 inches from the degausser's surface a field strength of only 50 oersteds exists. Furthermore, the erasing field present at the front edge nearest the operator is also very low. It is therefore recommended that care should be taken to ensure the entire width of tape to be erased is exposed to the effective field.

The vulnerability of information stored on PC hard drives is a recognised security risk. Unlike other PC data storage media the hard drive always stays with the PC. Every time a PC leaves a company's control all the data and company information will go with it. Even if the hard drive breaks down the storage platters will still contain information which could be read once repaired.

SECTION 3: INSTALLATION

Care should be taken when moving/handling the Degausser.

3.1 Unpacking

The degausser is shipped inside a cardboard packing case. Unpack the degausser carefully by disassembling the packing case and inspect it for signs of physical damage. If damage is apparent, a claim should be filed with the carrier immediately.

Once you have exposed the degausser, you can carefully remove it from the packing box. You should find the following:

- ⇒ V660 HDD EVO degausser
- ⇒ Power Cable
- ⇒ Infrared remote control switch
- ⇒ User Manual (This document)

3.2 Power Wiring

Check the power supply requirements on the label attached to the back of the equipment with the available supply. The unit is supplied with a flying 3 wire cable which, when connected to a properly wired receptacle, earths the unit. It is essential that a proper earth connection is made to assure safe operation.



CAUTION: A good electrical ground must be connected to the degausser. The unit must be connected to the correct power supply. Failure to do so may result in permanent damage.

Connections

Wire Colour	50Hz	Wire Colour	60Hz
Brown	Live	Black-1	Hot
Blue	Neutral	Black-2	Hot
Yellow/Green	Earth	Yellow/Green	Ground

IMPORTANT INSTRUCTION: The mains supply outlet socket should be close to the installed equipment and fully accessible.

NOTE: The degaussing coils are powered as part of a tuned resonant circuit. This allows quite high circulating currents to be generated within the degaussing coils, with minimal current consumption from the mains voltage supply. However, this technique requires that the waveform of the supply voltage contains minimal harmonic distortion. A distorted waveform will result in an increase in current consumption.

The typical current consumption figures provided in this manual are when powered from a supply with minimal distortion. Any increase in current consumption due to a distorted waveform will have minimal effect on the degausser performance, however, excessive current consumption should be avoided for obvious reasons. In the event of unexplained high currents, please consult your supplier.

SECTION 4: OPERATION



WARNING!

strong magnetic fields are generated. remove watches before use ensure that the fan operates correctly during use. (After initial warm up period). operating periods in excess of specified duration will result in exterior surfaces becoming very hot.

4.1 Turning on the V660 HDD EVO

The V660 HDD EVO degausser has been designed for simplicity of operation and erases hard drives in a single operation. The V660 HDD EVO can be operated locally or remotely via the infrared control.

Because of the different types and manufactures specifications of PC hard disk units, VS Security Products only recommends the erasure of hard disk units as a security precaution for the following:

- a. Erasure of data from a faulty disk pack before being sent for service/repair.
- b. Erasure of data from disk packs before disposal of computer equipment.

NOTE: VS Security Products cannot guarantee that a drive will be operational after degaussing.

4.2 Erasure of Hard Drives Locally

1. With the red power switch OFF, lift the lid on the top of the degausser. For completed erasure, the hard drive should be subjected to the erase field in 4 positions
2. Place the hard drive into the foam receptacle with the drive's PCB facing UP and on the left-hand side
3. Close the lid
4. Ensure the key switch is in the upright position indicating **LOCAL** operation (See image (A) below)
5. Press the red power switch

Note: The illuminating on/off power switch is of the latching push button type which energises the degaussing coil.

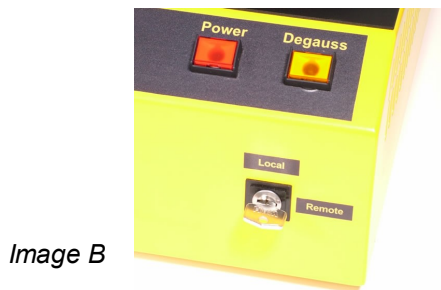
6. The yellow DEGAUSS indicator light will illuminate
7. After 3-5 seconds, press the red power switch to stop erasure
8. Remove the hard drive and rotate it through 90 degrees and replace into the foam receptacle with the drive's PCB board facing UP nearest the operator
9. Close the lid
10. Repeat steps 5-7 above
11. Remove the hard drive, flip it over and replace into the foam receptacle with the drive's PCB facing DOWN and on the left-hand side
12. Close the lid
13. Repeat steps 5-7 above
14. Remove the hard drive and rotate it through 90 degrees, replace it into the foam receptacle with the hard drive PCB facing DOWN and nearest the operator
15. Close the lid
16. Repeat steps 5-7 above
17. Remove the erased hard drive



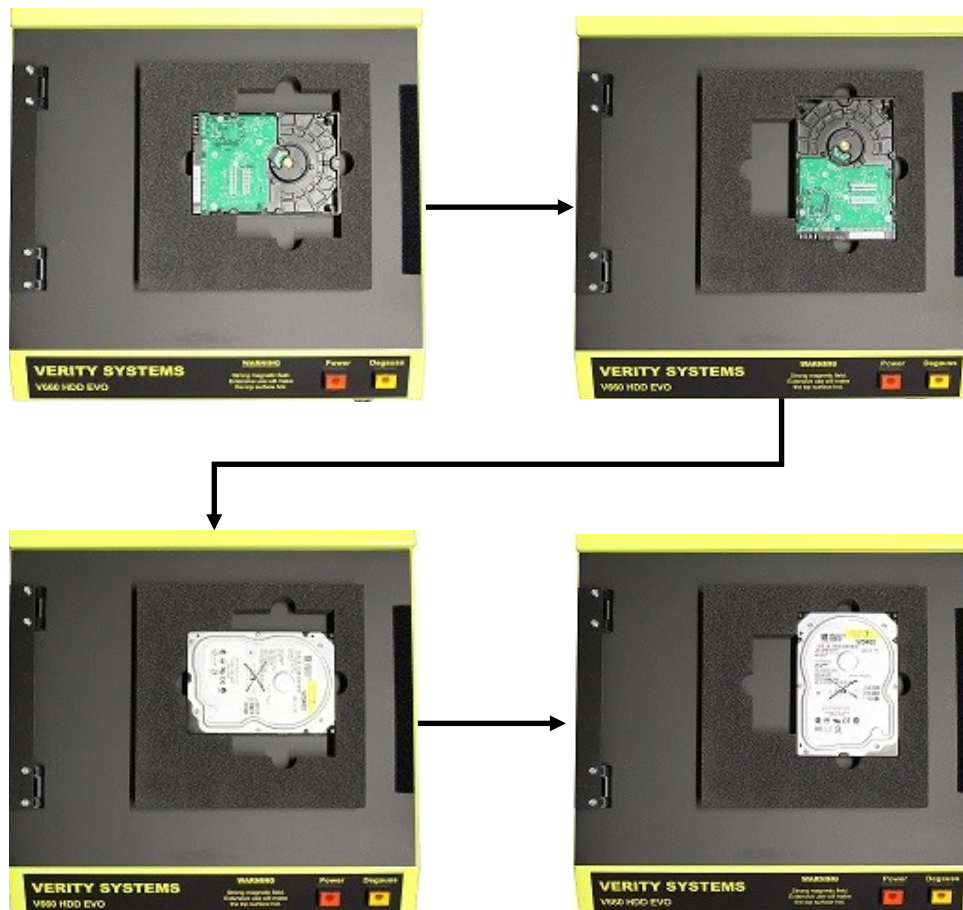
Image A

4.2 Erasure of Hard Drives Remotely

1. Ensure the key switch is turned 90 degrees clockwise indicating **REMOTE** operation (See image (B) below)
2. With the unit switched on, lift the lid on top of the degausser
3. Place the hard drive into the foam receptacle with the drive's PCB facing UP and on the left-hand side
4. Close the lid
5. Point the remote control at the IR Sensor on the degausser (See image (C) below) and hold down the large button on the remote control
6. The yellow DEGAUSS indicator light will illuminate
7. After 3-5 seconds, release the button and the remote control to stop erasure
8. Remove the hard drive and rotate it through 90 degrees and replace into the foam receptacle with the drive's PCB facing UP nearest the operator
9. Close the lid
10. Repeat steps 5-7 above
11. Remove the hard drive, flip it over and replace into the foam receptacle with the drive's PCB facing DOWN and on the left-hand side
12. Close the lid
13. Repeat steps 5-7 above
14. Remove the hard drive and rotate it through 90 degrees, replace it into the foam receptacle with the hard drive PCB facing DOWN and nearest the operator
15. Close the lid
16. Repeat steps 5-7 above
17. Remove the erased hard drive
18. Switch the unit off



4.2.1 Pictorial demonstration - Erasing Procedure



SECTION 5: INDICATORS / FEATURES

5.1 Indicator

The degauss indicator is provided to give an indication of degausser coil energisation. Certain circumstances can arise when, although the unit is switched on, the degauss coils may not be energised.

5.2 Warning Indicator

The field failure indicator is provided to give further reassurance that the degauss field is present. The indicator is inhibited by the degaussing magnetic field and is considered more reliable being a red flashing LED.

5.3 IR Transmitter

The infrared transmitter LED illuminates when the remote control is in operation

5.4 Overheat Protection

The high energy field developed by the V660 HDD EVO necessitates the generation of a considerable amount of heat.

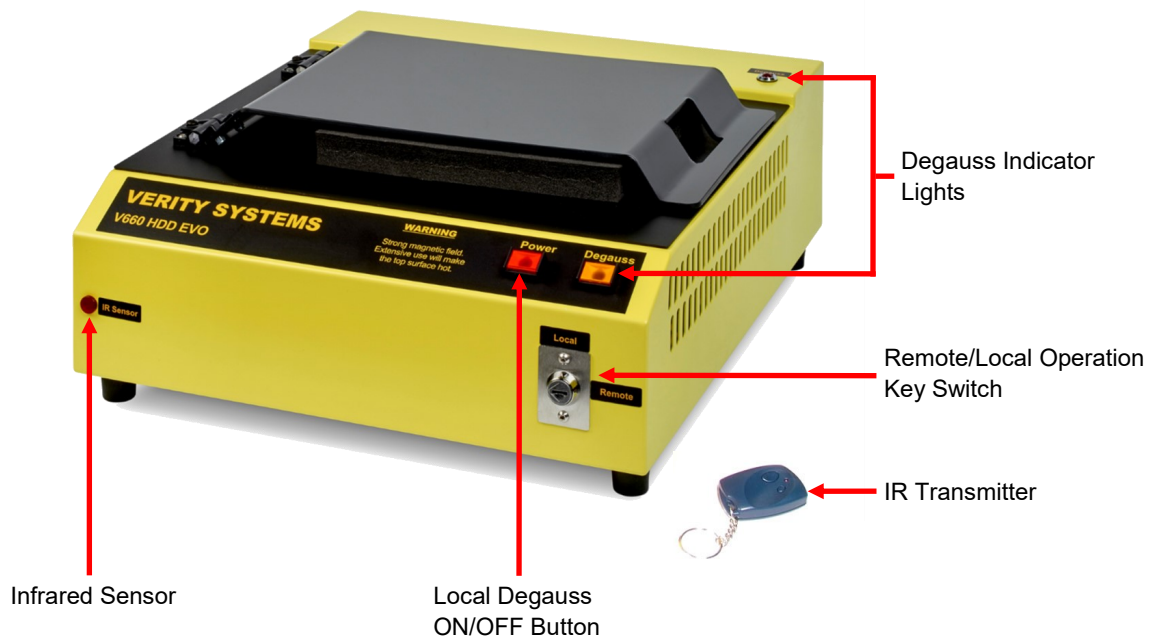
The degausser coil is monitored for excessively high temperatures and should this condition occur its operation will be inhibited until the coil has cooled sufficiently.

5.5 Cooling

A thermostatically controlled cooling fan is provided to extend the continuous operating period to a maximum.

5.6 Protection

The unit is protected by a thermal type circuit breaker. The current rating depends on the specified operating voltage.



SECTION 6: MAINTENANCE /SERVICING

The unit is basically maintenance free but periodic checks should be made to ensure the correct operation of the fan and the good condition of the power cable.

NOTE: To reduce the risk of shock hazard disconnect the degausser from the mains voltage supply before carrying out any maintenance or servicing.

6.1 Circuit Breaker

To reset the circuit breaker simply 'push in' and 'release' the button.

6.2 Bulb Replacement

NOTE: Remove Power from the unit before replacing bulbs.

1. Remove the "bulb lens" from the "switch/indicator body" by levering it forwards.
2. Remove the bulb from the rear of the "bulb housing" using a suitable extraction tool.
3. Replace the bulb noting the following:

NOTE: The bulb will fit in only one position in a locating slot. If when fitting this does not occur, remove the bulb and rotate it through 180°.

4. Refit the "bulb lens" to the "switch/indicator body" by gently pushing the lens into the "switch/indicator body" housing.

	Neon Voltage	
Model	Power Switch	Indicator
ZZ009167	220-240v	220-240v
ZZ009171	220-240v	220-240v

6.3 Cooling Fan

The cooling fan is of the conventional axial type powered from the ac voltage supply. The unit is over temperature and over current protected and does not require servicing. However in the event of failure the fan may easily be replaced from the rear of the degausser.

6.4 Internal Components

Most of the internal components are replaceable, i.e. the solid state relay, toroidal transformer and the thermal switches mounted on the degausser coil. However the tuning capacitors and the degaussing coil are not spared items and if found to be faulty the unit should be returned to VS Security Products for repair. To access the components inside the degausser the laminate cover must be removed. This entails breaking the adhesive using a sharp blade

6.4.1 Solid State Relay Replacement

A thermally conductive compound should be used to ensure adequate heat dissipation from the relay to the metal case.

6.4.2 Thermal Switch Replacement

Care must be exercised when replacing either of the switches on the degausser coil. The switches are fitted using an epoxy resin and it is recommended that the new switch be fitted in a new position on the coil and the old switch be left in place. The wire connections are of the 'push on' spade type and are easily transferred to the new switch. A high temperature epoxy resin part no. EA200001 should be used to secure the new switch.

6.4.3 Cover Replacement

The laminate cover should be cleaned of old adhesive before refitting, using sealant part number EA100007 and high temperature tape, part number HS100143

SECTION 7: TABLES

7.1 Basic Fault Finding Table

The table below assists fault finding down to component levels. However, should the degaussing coil or tuning capacitors be found to be faulty it is recommended that the unit be returned to VS Security Products for repair.

NOTE: The degaussing coils are powered as part of a tuned resonant circuit. This allows quite high circulating currents to be generated within the degaussing coils, with minimal current consumption from the mains voltage supply. However, this technique requires that the waveform of the supply voltage contains minimal harmonic distortion. A distorted waveform will result in an increase in current consumption.

The typical current consumption figures provided in this manual are when powered from a supply with minimal distortion. Any increase in current consumption due to a distorted waveform will have minimal effect on the degausser performance, however, excessive current consumption should be avoided for obvious reasons. In the event of unexplained high currents, please consult your supplier.

Function	Symptoms	Possible Fault	Location
Fails to degauss media	Circuit breaker CB1 repeatedly tripped	Incorrect supply voltage / frequency Faulty degauss coil L1 and / or tuning capacitors C1-C4	User source Inside centre and left-hand side
Power lamp	Fails to illuminate	Loss of mains supply Tripped circuit breaker Faulty switch Faulty neon	User source Rear panel Front panel Front panel
Degauss lamp	Fails to illuminate / flashes	Extensive use of degausser caused overheating. Allow unit to cool (Not a fault) Faulty Neon Faulty solid state relay R1 Faulty thermal switch SW2 Faulty filter / transformer TX1	Front Panel Inside on front end of degaussing coil Inside on front end of degaussing coil Inside front on left hand side
Cooling Fan	Fails to operate	Faulty thermal switch SW3 Faulty Fan M1	Inside on front end of degaussing coil Rear panel

7.2 Current Monitor Test Points

The following table contains typical current values to be measured at specific points in the equipment.

The values given are in amperes and may differ slightly from those actually measured due to component tolerance plus effects due to operating temperature.

Model	Voltage / Frequency	Current monitor test points (Refer to circuit diagram)					
		1	2	3	4	5	6
ZZ009167	220v-240v 50Hz	10	N/A	71	30	37	0.09
ZZ009171	220v 60Hz	11	6	72	39	29	0.19

SECTION 8: PARTS LIST

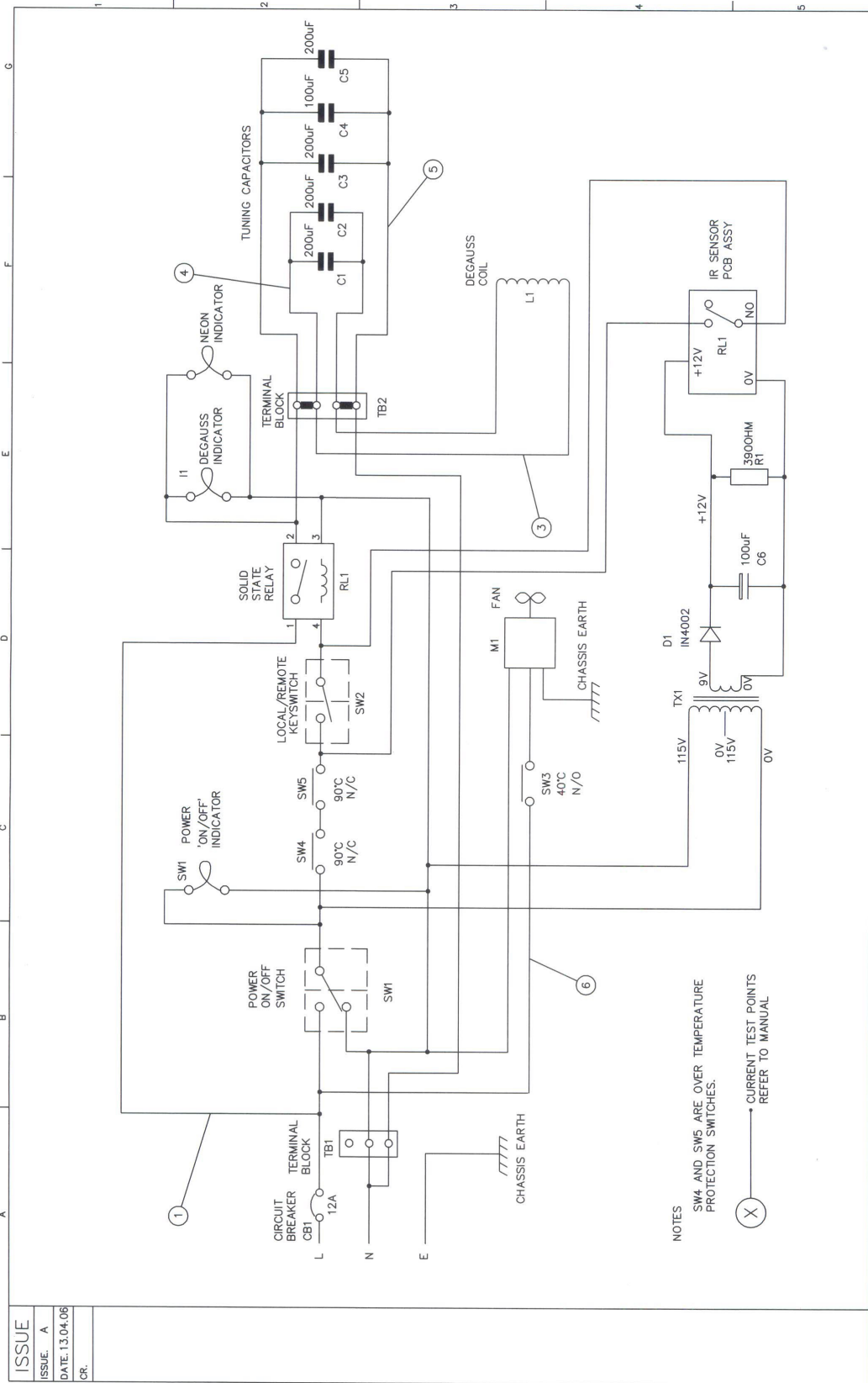
8.1 ZZ009171 Parts List

ZZ009171 (220v, 60Hz)			
Designation	Part No.	Quantity	Description
	CA100005	1	Cable gland 16mm
TB2	CG200001	4	Terminal Block
TB2	CG200002	1	End Cover
TB2	CG200003	0.4	Jump Bar
TB1	CM100023	0.25	Terminal Block
	FM100033	1	Guard 120mm metal
M1	FM100027	1	Fan 120mm
	HS100101	4	Feet
SW1 & IND1	OI100031	2	Neon
RL1	RS100010	1	Relay
SW3	SW100061	1	Temperature Sensor
SW1	SW100123	1	Red lens
SW1	SW100125	1	Switch Body
SW1	SW100126	1	Switch Contact Block
IND1	SW100121	1	Yellow lens
IND1	SW100124	1	Indicator
IND1	SW100127	1	Dummy Socket
TX1	TX100027	1	Auto Toroid Transformer
	XX003065	1	Fan Plate
SW2	SW100070	1	"Mode" Key Switch
IND2	OI100064	1	LED Indicator
SW2	SW100060	2	Thermal Switch
CB1	SW100143	1	16A Circuit Breaker
R1	RP200035	1	390ohm Resistor
RL2	XX005219	1	IR Sensor
D1	SD100025	1	Rectifier Diode
TX1	TX100069	1	Transformer
C6	CC100071	1	100µF 63v Capacitor
	XX005274	1	Fixed Top
	XX005276	1	Hinged Lid
	XX005218	1	IR Transmitter

8.2 ZZ009167 Parts List

ZZ009167 (220v-240v, 50Hz)			
Designation	Part No.	Quantity	Description
	CA100005	1	Cable gland 16mm
TB2	CG200001	4	Terminal Block
TB2	CG200002	1	End Cover
TB2	CG200003	0.4	Jump Bar
TB1	CM100023	0.25	Terminal Block
	FM100033	1	Guard 120mm metal
M1	FM100027	1	Fan 120mm
	HS100101	4	Feet
SW1 & IND1	OI100031	2	Neon
RL1	RS100010	1	Relay
SW3	SW100061	1	Temperature Sensor
SW1	SW100123	1	Red lens
SW1	SW100125	1	Switch Body
SW1	SW100126	1	Switch Contact Block
IND1	SW100121	1	Yellow lens
IND1	SW100124	1	Indicator
IND1	SW100127	1	Dummy Socket
TX1	TX100027	1	Auto Toroid Transformer
	XX003065	1	Fan Plate
SW2	SW100070	1	"Mode" Key Switch
IND2	OI100064	1	LED Indicator
SW2	SW100060	2	Thermal Switch
CB1	SW100066	1	12A Circuit Breaker
R1	RP200035	1	390ohm Resistor
RL2	XX005219	1	IR Sensor
D1	SD100025	1	Rectifier Diode
TX1	TX100069	1	Transformer
C6	CC100071	1	100µF 63v Capacitor
	XX005274	1	Fixed Top
	XX005276	1	Hinged Lid
	XX005218	1	IR Transmitter

8.3 Circuit Diagram (ZZ009167, 50Hz)



ISSUE
 ISSUE: A
 DATE: 13.04.06
 GR.

COMPUTER GENERATED DRG.-NO MANUAL ALTERATIONS-	SCALE: _____	TOLERANCES	MATL:	DIMENSIONS IN MILLIMETRES	THIRD ANGLE PROJECTION	REMOVE ALL BURRS AND SHARP EDGES
CAD FILE REFERENCE : ..\ISSDRG\A2-2792.DWG	DRN: BF	UNIT ± 0.5 HOLES: - 0 ± 0.25 UP TO 2.95 ± 0.04/-0.02 3 TO 5.95 ± 0.04/-0.02 .00 ± 0.13	FINISH:			
	CHKD:	.000 ± 0.03 18 TO 25 ±.16/-05				
	APPD:	UNLESS OTHERWISE STATED				
	D.O. REL:					
VERITY SYSTEMS Ltd			A2-5213			



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