



V91 DLT/LTO

LTO and DLT Tape Degausser

OPERATING and MAINTENANCE MANUAL

ZZ009161, ZZ009178

Thank you for purchasing a VS Security Products

V91 DLT/LTO DEGAUSSER

OPERATING AND MAINTENANCE MANUAL

Document Reference No. 25082015

Production Standard

ZZ009161 – 115v 60Hz
ZZ009178 – 220-240v 50Hz

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**WARNING**

This unit emits a strong magnetic field. Remove wrist watches before use. Personnel fitted with a Cardiac Pacemaker should not stand within 0.5 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 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.

Always switch Degausser Off when not being used.

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**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

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SECTION 1: SPECIFICATIONS

Erasure Depth: -75db on 1500 Oe
-90db on 750Oe

Media Capacity: ALL DLT Tapes: Super DLT I, II & III, DLT SDLTI, SDLTII, S4, VS1, LTO1, LTO2, LTO3, LTO4; LTO5, LTO6 9840; 9940
Other media erased: 1/2" Computer Tape; Diskettes – single/boxed; DC 600, 2000; TK50, 70, 85, 3480/3490E/3590/3590E; 4mm; 8mm; Exabyte; Travan; DLT; DAT; ZIP Disk; Ultrium

Power Requirements:
(factory set)

	ZZ 009 161	ZZ 009 178
Line voltage	115V +5% -10%	220-240V
Line frequency	60Hz	50Hz
Current (typical)	14A	6A

Circuit Breaker: 15A (60Hz) 10A (50Hz)

Erasure time: 12 seconds typical

Run time: 6 minutes typical

Duty cycle: 10 % to 20% depending on ambient air
Temperature

Mounting: Free standing table top

Overall Dimensions: Depth 19 inches (48cm)
Width 16.5 inches (42cm)
Height 6 inches (15cm)

Weight: Approximately 28kg

Security Key Switch: Standard

SECTION 2: INTRODUCTION

A magnetic recording process is almost always preceded by an erasing process, either by bulk degaussing or by magnetic head erasure. Erasure is a fundamental step in achieving high quality recordings.

Bulk erasure is the preferred method due to the considerable reduction in time involved plus the otherwise use of expensive record/reproduce/erase equipment.

The V91 DLT/LTO bulk degausser functions like a large electro magnet, its erasing field originating as leakage flux from a large gap in the field structure, the V91 DLT/LTO 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.

DLT

Anyone replacing their existing DLT drive with the new DLT1 drive should be aware that their existing DLT tapes will be unsuitable for use with the new drive. However, the problem is easily solved by erasing all existing DLT tapes on VS Security Products' V91 DLT/LTO. The V91 DLT/LTO will erase all old data and formats in 10 seconds leaving the tapes completely clear and ready to use in DLT1 drives.

SECTION 3: INSTALLATION

3.1 Unpacking

Unpack the degausser carefully, and inspect it for signs of physical damage. If there are missing or damaged parts contact VS Security Products or an authorised distributor immediately to correct any miss-packed or missing parts.

You should find the following:

- VS Security Products V91 DLT/LTO degausser
- Power Cable
- This User Manual

3.2 Power Requirements

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	60Hz Unit	50Hz Unit
Brown	Hot	Live
Blue	Cold	Neutral
Yellow/Green	Ground	Earth

IMPORTANT INSTRUCTION

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



NOTE:

Degausser Current Consumption

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. In extreme cases excessive current will trip the circuit breaker making it necessary to use a mains filter to remove the distortion and reduce the 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's 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 V91 DLT/LTO

The V91HD/HLT degausser has been designed for simplicity of operation in that it consists basically of a flat bed over which the hard drive is passed. Control is via a single on/off switch and indicator.

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

On units with the key switch option fitted, the power switch will illuminate as normal when switched on but will also require the key switch to be turned clockwise for correct operation.



NOTE:

Where a security key switch is fitted, the degaussing coil must only be energised and de-energised by using the power switch.

4.2 Erasure of DLT and LTO Backup Tapes & Other Cassettes and Cartridges

Following the procedure below will ensure tapes and cassettes are returned to an “as new” condition and ready for reuse.

Note: Some Tapes have a servo track which are written by the manufacture so cannot be reused. (Consult the tape manufacturer for details)

The media to be erased should be held away from the degausser whilst it is switched on. When switched on the degauss indicator will also illuminate.

The media to be erased should be brought slowly towards the right hand side the degausser’s top surface. Pass the media across middle on the top surface, as shown in the 1st Pass Picture below, in a slow and deliberate movement taking approximately three seconds to traverse the degausser.

The media must be turned through 90 degrees and a second pass made using the same procedure. The media must be turned over and the process repeated, making a total of four passes to ensure complete erasure.

SEQUENCE OF ERASURE:

1st Pass



4th Pass

2nd Pass



3rd Pass



4.3 Erasure of Reels and Pancakes

The media in reel or pancake form to be erased should be brought slowly towards the top surface. The media should be placed on the surface and rotated slowly and evenly taking approximately five seconds to complete a revolution; then remove the media slowly from the degausser before switching off. Reels with tape wider than 1/2" should be turned over then subjected to a second pass.

It is recommended that the degausser is switched off between media erasure as this will reduce the internal heating and increase the operation time.

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 Overheat Protection

The high energy field developed by the V91 DLT/LTO 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.

5.4 Cooling

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

5.5 Protection

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

SECTION 6: MAINTENANCE /SERVICE

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.

6.2.1 Remove the "bulb lens" from the "switch/indicator body" by levering it forwards.

6.2.2 Remove the bulb from the rear of the "bulb housing" using a suitable extraction tool.

6.2.3 Replace the bulb noting the following:

- a) 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°.

6.2.4 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
ZZ009161	115v	240/220v
ZZ009178	220/240v	240/220v

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 seal 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. EA 200 001 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 the sealant part no. EA 100 007.

SECTION 7: TABLES

7.1 Basic Fault Finding Table



NOTE:

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.

TABLE 1

Function	Symptoms	Possible Fault	Location
Fails to degauss media	Circuit Breaker CB1 repeatedly tripped	Incorrect supply voltage/frequency	User Source
		Faulty degauss coil L1 and/or tuning capacitors C1-C4	Inside centre and left hand side
Power lamp	Fails to illuminate	Loss of mains supply	User source
		Tripped Circuit Breaker	Rear panel
		Faulty switch Faulty neon	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	Front panel
		Faulty solid state relay R1	Inside on right hand side
		Faulty thermal switch SW2	Inside on front end of degaussing coil
Cooling fan	Fails to operate	Faulty filter/transformer TX1	Inside front on left hand side
		Faulty thermal switch SW3	Inside on front end of degaussing coil
		Faulty Fan M1	Rear Panel



NOTE:
Degausser Current Consumption

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.

TABLE 2

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
ZZ009161	115v 60Hz	14	8	70	39	29	0.19
ZZ009178	240-220v 50Hz	7	N/A	68	30	37	0.09

SECTION 8: PARTS LIST

ZZ009161 (115v, 60Hz)

Designation	Part No.	Quantity	Description
	CA 100 005	1	Cable gland 16mm
TB2	CG 200 001	1	Terminal Block
TB2	CG 200 002	1	End Cover
TB2	CG 200 003	1	Jump Bar
TB1	CM 100 023	1	Terminal Block
	FM 100 033	1	Guard 120mm metal
M1	FM 100 042	1	Fan 120mm
	HS 100 101	4	Feet
Ind 1	OI 100 031	1	Neon
SW1	OI 100 030	1	Neon
RL1	RS 100 010	1	Relay
	SH 100 150	1	Relay Cover
SW3	SP 100 002	1	Temperature Sensor
SW2	SW 100 016	2	Thermal Switch
CB1	SW 100 017	1	Circuit Breaker 15A
SW1	SW 100 123	1	Red lens
SW1	SW 100 125	1	Switch Body
SW1	SW 100 126	1	Switch Contacts
IND1	SW 100 121	1	Yellow Lens
IND1	SW 100 124	1	Indicator Body
IND1	SW 100 127	1	Dummy Socket
TX1	TX 100 030	1	Auto Toroid Transformer
	MP 003 065	1	Fan Plate
SW4	SW 100 070	1	Security Key Switch
Ind2	OI 100 017	1	Flashing Led
R1	RP 200 013	1	220 ohm Resistor
RL2	RS 100 076	1	Relay Base
RL2	RS 100 077	1	24v ac Relay
D2	SD 100 025	1	Rectifier Diode
TX1	TX 100 069	1	Transformer
C6	CC 100 025	1	100 μ f Capacitor
	XX 003 064	1	V91 Top

SECTION 8: PARTS LIST

ZZ009178 (240-220v 50Hz)

Designation	Part No.	Quantity	Description
	CA 100 005	1	Cable gland 16mm
TB2	CG 200 001	1	Terminal Block
TB2	CG 200 002	1	End Cover
TB2	CG 200 003	1	Jump Bar
TB1	CM 100 023	1	Terminal Block
	FM 100 033	1	Guard 120mm metal
M1	FM 100 027	1	Fan 120mm
	HS 100 101	4	Feet
Ind 1	OI 100 031	1	Neon
SW1	OI 100 031	1	Neon
RL1	RS 100 010	1	Relay
	SH 100 150	1	Relay Cover
SW3	SP 100 002	1	Temperature Sensor
SW2	SW 100 016	2	Thermal Switch
CB1	SW 100 049	1	Circuit Breaker 10A
SW1	SW 100 123	1	Red lens
SW1	SW 100 125	1	Switch Body
SW1	SW 100 126	1	Switch Contacts
IND1	SW 100 121	1	Yellow Lens
IND1	SW 100 124	1	Indicator Body
IND1	SW 100 127	1	Dummy Socket
	MP002325	1	Filter
	XX001118	1	Fan Plate
SW4	SW 100 070	1	Security Key Switch
Ind2	OI 100 017	1	Flashing Led
R1	RP 200 013	1	220 ohm Resistor
RL2	RS 100 076	1	Relay Base
RL2	RS 100 077	1	24v ac Relay
D2	SD 100 025	1	Rectifier Diode
TX1	TX 100 069	1	Transformer
C6	CC 100 025	1	100 μ f Capacitor
	XX 003 064	1	V91 Top

SECTION 9: TECHNICAL SUPPORT

You should first attempt to get technical assistance from your dealer or distributor.

VS Security Products support personnel can be reached at:

VS SECURITY PRODUCTS LTD

17 Pegasus Court
North Lane
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Email: ussales@vssecurityproducts.com

STANDARD TERMS AND CONDITIONS OF SALE

In these conditions “VSSP Ltd” is VS Security Products Ltd, having its registered office at 17 Pegasus Court, North Lane, Aldershot, Hampshire, GU12 4QP, UK. And the “Purchaser” is an individual trader or company with whom VSSP Ltd contracts.

All orders are accepted by VSSP Ltd subject to Conditions of Sale set out below

1. GENERAL

These conditions shall prevail over any terms or conditions which the Purchaser may seek or have sought to impose. Any conditions in the Purchaser’s Order will be binding only so far as they are compatible with these Terms and Conditions and are expressly accepted by a Director of VSSP Ltd in writing. Clerical errors may be corrected by VSSP Ltd at any time.

2. PRICES

The prices quoted are Ex Works and exclude Value Added Tax. Any published list price shall be subject to revision without notice according to VSSP Ltd prices ruling at the time of delivery.

3. SETTLEMENT TERMS

Punctual payment is the essence of the Contract and the Purchaser will pay interest at the rate of 2% per month or part thereof of any overdue payments. Provided that the Purchaser has produced references which are in VSSP Ltd’ opinion are satisfactory Settlement Terms will be net 30 days from delivery. In all other cases payment shall be in advance upon submission by VSSP Ltd of a pro forma invoice

4. DELIVERY

Unless otherwise agreed in writing any quoted delivery date shall only be an estimate thereof and shall not be essence of the Contract. Whilst all reasonable endeavours will be made to comply with estimated delivery dates VSSP Ltd does not accept any liability in respect of failure or delay in delivery. Where a Purchaser’s Order calls for a number of items VSSP Ltd reserves the right to deliver all or any as soon as they are available at VSSP Ltd’ premises and the Purchaser shall honour all statements presented in respect of such deliveries in accordance with the Settlement Terms. Notification to the Purchaser by VSSP Ltd that the goods are available for delivery to an independent carrier or to the Purchaser or his agent shall constitute delivery to the Purchaser. In all cases the carrier acts as Agent of the Purchaser.

5. BUSINESS SALES/WEEE DIRECTIVE

VSSP Ltd is a business to business supplier. Product Price Lists and other product brochures produced by VSSP Ltd are intended for use by business customers and not consumers. By ordering, the Purchaser confirms that he, she or it wishes to obtain the Supplies for the purposes of his, her or its business and not as a consumer.

The Purchaser (not being a Consumer) agrees that where the Goods (being electrical equipment) became a waste in accordance with Directive 2002/96/EC (including any amendments and re-enactments thereof) and all applicable Member State implementing regulations and laws (together known as the “WEEE Directive”), they will bear the responsibility for ensuring, and financing all costs of collection, treatment, recovery and environmentally sound disposal of the Goods in accordance with the WEEE Directive. In addition the Purchaser (not being a Consumer) also agrees to bear responsibility for compliance with such requirements and financing all such costs in respect of any Goods (being electrical equipment) which are being replaced by Goods as a new equivalent product or as a new product fulfilling the same function. Additionally the Purchaser agrees to indemnify and hold harmless VSSP Ltd and any other person who is the producer of the Goods within the meaning of the WEEE Directive from all such costs referred to in this clause.

6. INSPECTION AND ACCEPTANCE

THE PURCHASER MUST INSPECT THE PRODUCTS as soon as is reasonably practicable after delivery and shall within 3 working days of delivery give notice to VSSP Ltd in detail of any defect in the Products or of any other complaint which the Purchaser may have in relation to the Products. Upon acceptance of the goods the Purchaser shall be deemed to acknowledge that the goods so accepted conform in all respects with the specification of the goods ordered. The Purchaser shall be deemed to have accepted the goods when they are delivered to him or his agent or carrier unless the Purchaser gives written notice to the contrary to VSSP Ltd within three working days of delivery. If the Purchaser fails to give such notice, the Products shall be conclusively presumed to be in all respects in accordance with the contract and free from any defect which would be apparent on reasonable examination and the Purchaser shall be deemed to have accepted the Products accordingly. The Purchaser acknowledges that VSSP Ltd does not write software comprised in Products sold by it and, accordingly, the Purchaser acknowledges that it is its sole responsibility to check (by the application of appropriate diagnostic software) for the presence of computer viruses in software comprised in Products before such Products are used or disposed of. In the event that the Purchaser establishes to VSSP Ltd’ reasonable satisfaction that the Products are not in accordance with the contract or are so defective, the Purchaser’s sole remedy in respect of such non-accordance or defects shall be limited as VSSP Ltd may elect to the replacement of the Products or refund of the purchase price or, where sums are owed by the Purchaser to VSSP Ltd, the issue of a credit note against the return of the Products.

THE PURCHASER MUST REFUSE PARCELS DELIVERED TO HIM IN A DAMAGED CONDITION.

In no circumstances shall VSSP Ltd be liable to compensate the Purchaser in damages or otherwise for non-delivery or late delivery of the Products or for any loss consequential or otherwise arising from non-delivery or late delivery.

7. CANCELLATION OF ORDER

If at any time the Purchaser cancels an order for goods or services which VSSP Ltd specifies to be “non-standard”, i.e. not detailed on the current price list, VSSP Ltd shall be entitled to claim as damages an amount equal to 75% of the value of the order. For standard goods or services damages would equate to 50% of the value of the order. These amounts the Purchaser agrees represents a genuine pre-estimate of VSSP Ltd’ loss. Upon the cancellation of any order, VSSP Ltd shall have the right to realise at its discretion after 60 days all monies, securities or goods pledged with or held by it on behalf of the Purchaser and to apply the proceeds in or towards the satisfaction of such claim for damages and the Purchaser shall have no claim whatsoever against VSSP Ltd in connection therewith.

8. PASSING OF PROPERTY AND RISK

The goods shall remain the sole and absolute property of VSSP Ltd as legal and equitable owner until such times as the Purchaser shall have paid to VSSP Ltd the agreed price. From delivery of the goods the Purchaser acknowledges that he is in possession of the goods solely as bailee for VSSP Ltd as shall as bailee insure and keep the same insured in the name of VSSP Ltd in their full reinstatement value in some reputable insurance office and indemnify VSSP Ltd for any uninsured loss thereof. For the purpose of recovering the goods VSSP Ltd may enter any premises where the goods are stored or where they are reasonably thought to be stored and may repossess the same. Until such time as the purchaser becomes the owner of the goods he will store them on his premises in a manner which makes them readily identifiable as the goods of VSSP Ltd. The Purchaser is licensed by VSSP Ltd to agree to sell VSSP Ltd’ goods subject to the express conditions that the entire proceeds thereof are held in trust for VSSP Ltd and are not mingled with other monies or paid into any overdrawn Bank Account and shall be at all times identifiable as VSSP Ltd monies. The Purchaser is licensed to use the goods in

the manufacture of other goods provided that if the goods being the property of VSSP Ltd are mixed with goods being the property of the Purchaser or are processed with or incorporated therein the product shall be deemed to be the sole and exclusive property of VSSP Ltd. If the goods being the property of VSSP Ltd are mixed with goods being the property of any person other than the Purchaser or incorporated therein the product thereof shall become or shall be deemed to be owned in common with that other person in proportion to the value of the constituent parts therein. The Purchaser is licensed by VSSP Ltd to agree to sell on the said product subject to the express condition hereinbefore mentioned in relation to the proceeds of sale thereof.

9. SPECIFICATION

All drawings, specifications and particulars of the goods submitted are approximate only. The descriptions and illustrations contained in catalogues, price lists and other advertising of VSSP Ltd are intended merely to present a general idea of the goods described therein and shall not form part of the Contract. Whilst every effort is made to ensure that the latest specification is available VSSP Ltd reserves the right to incorporate new features and to supply products which may not be strictly in accordance with the specification agreed upon, provided that any changes in specification shall not materially prejudice the performance of the goods.

10. FORCE MAJEURE

VSSP Ltd shall not be liable for failure to perform or delay in performance of any contract or for the loss or damage to goods directly or indirectly caused by force majeure to include acts of God, fire, theft, riot, war, embargo, strike, shortage of labour, delays in delivery of material by suppliers, prohibition or export or import, confiscation or any other occurrence (whether or not of a similar nature to those specified) beyond the control of VSSP Ltd. No consequences of any such event shall give rise to the recession of the Contract unless in the opinion of VSSP Ltd the contract becomes incapable of performance.

11. WARRANTY

- a) VSSP Ltd warrants that the goods will be of good quality and that VSSP Ltd has title to sell the same. VSSP Ltd' warranty of workmanship (if provided) shall be effective from the date on which the goods were accepted in accordance with Clause 8 and limited to 12 months from despatch or such period as may be notified ("the warranty period"). During the warranty period VSSP Ltd will replace, free of charge, any part or parts of the goods which fail to function as a result of faults caused during their manufacture providing always that such faulty goods are returned carriage paid to VSSP Ltd' premises. (See exceptions 12.c) and 12.d) below) The goods when repaired by VSSP Ltd will then be returned carriage paid to the Purchaser. VSSP Ltd shall not be liable under this warranty:
 - i) where the defect results from the goods being subjected to abnormal usage or where the defect is due to the act, neglect or default of anyone other than VSSP Ltd
 - ii) for the replacement or repair of the goods or part or parts thereof where such replacement, or repair becomes impossible as a result of force majeure or any other circumstances beyond VSSP Ltd' control
 - iii) where the goods or any components or parts thereof are the subject of a separate guarantee given by a third party.
- b) The Purchaser acknowledges that if he has not notified to VSSP Ltd any particular purpose for which the goods are required all express or implied warranties or conditions statutory or otherwise as to quality of or fitness for any particular purpose of the goods are hereby expressly excluded and VSSP Ltd shall not (except as set out above) be under any liability whatsoever in respect of defects in goods delivered or for any injury, damage or loss resulting from such defects from any cause whatsoever.
- c) VSSP Ltd makes the following exclusions to the above warranty terms:
 - i) Any CD/DVD/BD drives or hard disk drives fitted to any new equipment will not be covered for any period longer than 12 months from the initial date of sale, even if extended warranties are in place.
 - ii) Print heads carry a limited warranty of 90 days or 20,000 prints whichever occurs sooner.
 - iii) Consumable items which are reasonably expected to be used up under normal usage such as ink cartridges and blank media are not covered by warranty.
- d) Software is licensed "as is". VSSP Ltd gives no warranty with respect to its quality or performance. VSSP Ltd cannot guarantee you uninterrupted service or the correction of any errors.

12. LEGAL CONSTRUCTION

Except where otherwise stipulated in writing the relations, arrangements and agreements between the parties shall be governed by the laws of England and all disputes which may arise under out of or in connection with any contract between VSSP Ltd and the Purchaser shall be submitted to arbitration by the London Court of Arbitration in accordance with its Rules for the time being in force. Service of any notices in the course of such arbitration to the address of the Purchaser given in the Contract shall be valid and sufficient. All references in the Terms and Conditions to the masculine gender shall be deemed to include the feminine and neuter genders. Failure or neglect by VSSP Ltd to enforce at any time any of the provisions hereof shall not be construed a waiver of VSSP Ltd' rights nor in any way affect the validity of the whole or part of this contract nor prejudice VSSP Ltd' rights to take subsequent action. The headings of the Terms and Conditions are inserted for convenience or reference only and are not intended to be part of or to affect the meaning or interpretation of any of the terms and conditions of this Contract. In the event that any of these terms, conditions or provisions shall be determined invalid, unlawful or unenforceable it shall be severed from the remaining terms, conditions and provisions which shall continue to be valid to the fullest extent permitted by law.

13. STERLING PROTECTION

Any quoted or listed sterling prices are subject to variation in the rate of exchange between sterling and the currency paid by VSSP Ltd for whole or major components between the date of the contract and the time of the submission of VSSP Ltd' invoice to the Purchaser. VSSP Ltd reserves the right to vary the price so that it accords with the said rate of exchange prevailing at the time of VSSP Ltd' invoice.

14. DEFAULT

If the Purchaser shall default in the performance of any of its obligations under the Contract VSSP Ltd shall on giving the Purchaser notice in writing have the right without prejudice to any other rights or remedies to take all or any of the following actions:

- a) cancel all or any part of any discount which might otherwise have been due under the terms of the Contract;
- b) suspend any outstanding delivery of goods or parts thereof until such default shall have been made good;
- c) recover possession of that part of the goods to which the default relates and the Purchaser shall allow VSSP Ltd free access to his premises to enable VSSP Ltd to do so.

No waiver or delay in exercise by VSSP Ltd of its right under this clause shall be deemed to imply acceptance of the default or any subsequent default. If the Purchaser shall become bankrupt, go into liquidation, have a Receiving Order made against him, or carry on his business under a Receiver VSSP Ltd shall have the liberty without prejudice to any further remedies under the Contract to terminate the Contract forthwith by notice in writing to the Purchaser or Liquidator and recover possession of all equipment for which full payment of the contract price has not been received in c. above.

The Contract to terminate the Contract forthwith by notice in writing to the Purchaser or Liquidator and recover possession of all equipment for which full payment of the contract price has not been received in c. above.

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