

SWEFOG ULTIMATE 2000 DMX

G::4 ATMOSPHERIC HAZE GENERATOR



■ 20 202-240 Ultimate 2000 DMX 240V 50Hz ■ 20 202-120 Ultimate 2000 DMX 120V 60Hz

OWNER'S MANUAL

SWEFOG

Technology Group AB



IMPORTANT!

Read all cautions and warnings prior to assembly, mounting and operating this equipment.

IMPORTANT !

Prière de lire toutes les précautions et les avertissements avant l'assemblage, le montage et de faire fonctionner cet équipement.

WICHTIG !

Lesen Sie alle Warnungen sorgfältig bevor Sie das Gerät zusammenbauen, installieren und benutzen.

¡IMPORTANTE!

Por favor, lea todas las precauciones y las advertencias antes de ensamblar, montar y operar este equipo.

IMPORTANTI!

Leggere tutti gli avvertenti prima di montare e usare questo apparecchio.

TABLE OF CONTENTS

| | |
|--|-----------|
| HOW TO USE THIS GUIDE | 4 |
| QUICK SETUP GUIDE | 4 |
| 1. INTRODUCTION | 5 |
| 2. UNPACKING | 5 |
| 3. SAFETY PRECAUTIONS | 5 |
| 4. CE-CONFORMITY | 7 |
| 5. INSTALLATION AND PRECAUTIONS | 7 |
| 6. OPERATION | 8 |
| 6.1 Explore your machine | 8 |
| 6.1.1 Air inlet filter mats on machine housing | 9 |
| 6.1.2 Ergonomic AluGrip handle | 9 |
| 6.2 Control panel & display | 10 |
| 6.2.1 Normal operation | 10 |
| 6.2.2 Control – DMX 512 & manual on/off | 11 |
| 6.3 Fluids | 12 |
| 7. SERVICE, MAINTENANCE & REPAIR | 13 |
| 8. SPECIFICATIONS | 13 |
| SWEFOG WORLDWIDE WARRANTY | 14 |

Manufactured by:
SWEFOG TECHNOLOGY GROUP AB
P.O. BOX 106
SE-682 23 FILIPSTAD, SWEDEN.
Tel: +46 590 122 50 Fax: +46 590 122 09
e-mail: info@swefog.com
www.swefog.com

HOW TO USE THIS GUIDE:

For your safety, it is important that you read this manual thoroughly before you operate the Ultimate 2000 DMX.

This manual describes how to unpack, plan for, set up and operate the Ultimate 2000 DMX. It also lists important safety precautions and a separate service & maintenance manual for technical support.

In this manual you will find the following symbols:



CAUTION!

CAUTION: This symbol appears adjacent to caution messages. Not heeding these messages could result in minor personal injury and / or damage to equipment.



WARNING

WARNING: This symbol appears adjacent to warning messages. Not heeding these messages could result in serious personal injury!

QUICK SETUP GUIDE:

1. Read chapter 3: “SAFETY PRECAUTIONS”.
2. Place machine on a level surface.
3. Fill Swefog Ultimate haze fluid in the tank, fill slowly, and do NOT exceed the “max” level indicator!
4. Connect to a mains outlet with earth lead.
5. Connect a DMX cable to the male XLR connector.
6. Switch the machine ON.
7. Set a DMX address 1-512 press OK.

1. INTRODUCTION:

The Ultimate 2000 DMX is a high performance atmospheric haze generator. The machine can operate as a continuous duty haze machine, or it can operate intermittently for periods of time, controlled by the user.

- The machine is instant on. Does not need warm-up time.
- Operates continuously as long as there is fluid and power supplied.
- Operates for approx. 40 hours on full tank at maximum output.
- The machine will not be damaged if operating with an empty tank, even for a long time.
- All internal parts are easy to service or replace.
- The machine is available in **DMX** version ONLY, with manual or DMX control.

We hope that you will be fully satisfied with the performance and the low running costs. However, to keep your machine functioning like new throughout its entire life, it is important to follow the instructions in this manual and to perform regular maintenance of the hazer.

For the best results, use only original Swefog Ultimate haze fluid in the machine. **Use of any other fluid will void the warranty.**

How to use this manual:

This manual contains important safety precautions and information on how to use your machine. Always read the owner's manual before using the machine!

A [Service & Maintenance manual](#), which contains detailed information on regular maintenance, can be downloaded from www.swefog.com. Refer all service and repair work to qualified personnel.

This manual and updates can also be downloaded as PDF-files from www.swefog.com

2. UNPACKING:

Swefog Ultimate 2000 DMX package contains:

- One machine.
- One manual.
- Please note: no mains cable is included, and no fluid.
- Save the box and packing material for future use.
- If the machine needs to be transported, make sure the tank is empty. If not, the machine must be transported upright. Ship, preferably in the original box, placed on a small pallet. Use straps to fix it to the pallet to avoid fluid leakage during transport.

3. SAFETY PRECAUTIONS:



WARNING

- **Haze residues and fluid spillage may be dangerous. A slippery surface can cause serious personal injury! ALWAYS check surfaces before, during and after use of the machine.**
- **Use Swefog Ultimate C- or C-XL fluid only. Other fluids may damage the machine, cause residues inside and outside the machine, or cause toxic or odorous haze.**
- **NOTE: The fluid is made with mineral-based oil and may cause allergic reactions. Make sure that persons subjected to haze and fluids are not allergic to the substance. The original Swefog fluid is made with medical grade chemicals only, and is non-toxic. But always ensure the haze will not cause inconvenience.**

- **Connect to mains outlet with earth. Use a cable with earth. Check for correct voltage and/or mains frequency (see machine label). NEVER use the machine with incorrect mains voltage or frequency.**
- **NOTE: The condensation of the haze, makes floors, stairs and other surfaces slippery. Do NOT direct the machine's haze output beam towards cool or hard surfaces like wood, plastics, glass or metal. If the machine is frequently used, or used for a long time, check frequently that no surface is slippery.**



CAUTION !

- **NEVER mix or dilute the fluid.**
- **NEVER heat the fluid. Use room temperature fluid only.**
- **The machine is for indoor-use only. NEVER use in a dusty environment. Keep away from moisture!**
- **Operate in room temperature only. Min. operating temperature is +10 °C, max. temperature is +30 °C.**
- **NEVER cover vents or air inlets on the machine housing.**
- **NEVER use dimmers to control the power to the machine. The machine must be either ON or OFF: the output from the machine is controlled only through the length of intervals when it is ON. If mains voltage input is regulated through a dimmer switch, the compressor and other electric components will be damaged.**
- **Service internal parts ONLY if you have the know-how and experience to perform the service correctly. If not, please contact a Swefog service centre or the manufacturer. NOTE: Incorrect service and/or use of non-original spare parts will void the warranty.**
- **NEVER change parts or details inside, use original spare parts only!**
- **Do not overfill the machine. NEVER switch power on if fluid level is above the "max" symbol.**
- **NOTE: If there is a fluid leakage or spillage, wipe off fluid. DO NOT use the machine until it is mended.**
- **NOTE: The haze may cause residues on mirrors, lenses and similar components if there is too much haze in the air. Equipment using fan ventilation may draw haze through the lamp housing, which may cause residues. Always check carefully where to direct the output of the machine, and keep equipment that uses fans away from the haze.**

4. CE-CONFORMITY (230V models only):

We, Swefog, declare that the appliance described in this manual conforms to the EEC machine directive. Complete documents may be required from Swefog.



5. INSTALLATION AND PRECAUTIONS:



WARNING

- Make sure the area in which this product is to be used is well ventilated.
- Do NOT install the machine directly above an audience.
- Do NOT direct the haze outlet directly towards an audience.
- Do NOT operate near flammable materials.
- Do NOT expose to rain or moisture. Use indoors only.



CAUTION !

- Use only Swefog Ultimate fluid in this machine.
- Use responsible concentrations of haze to create atmospheric effects.
- Not for residential use.
- Must be handled by qualified personnel at all times.

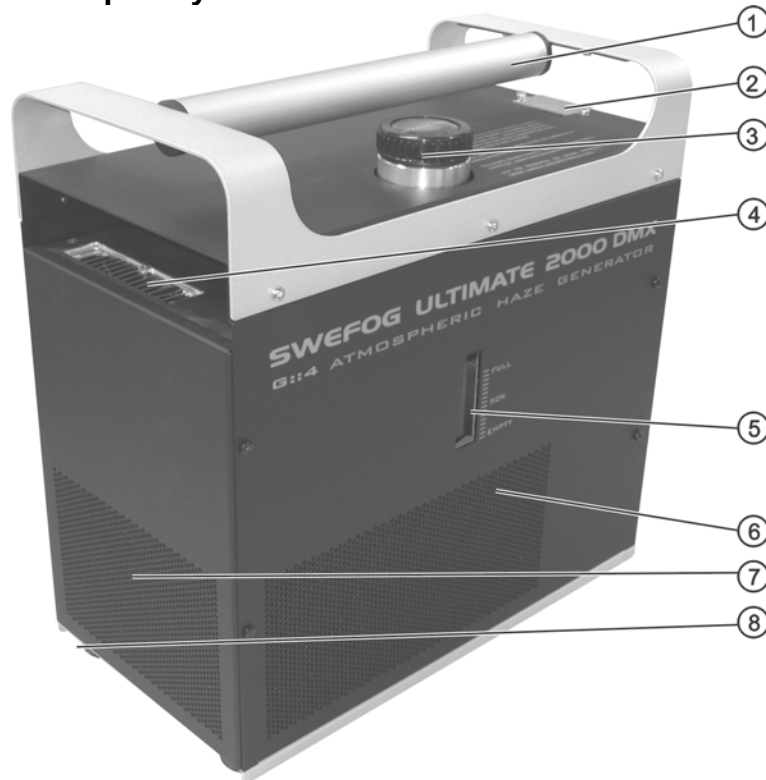
According to a report commissioned by Actors' Equity Association and the League of American Theatres and Producers, mineral oil should be used in such a manner that an Actors' exposure does not exceed a peak concentration of 25 mg/m³.

For chronic exposure to mineral oil, the existing standards established for oil mists (5 mg/m³ as an eight-hour time-weighted average) should also be protective for Actors in theatrical productions.

Source:
http://www.actorsequity.org/ TheatreNews/smokefog_0501.html

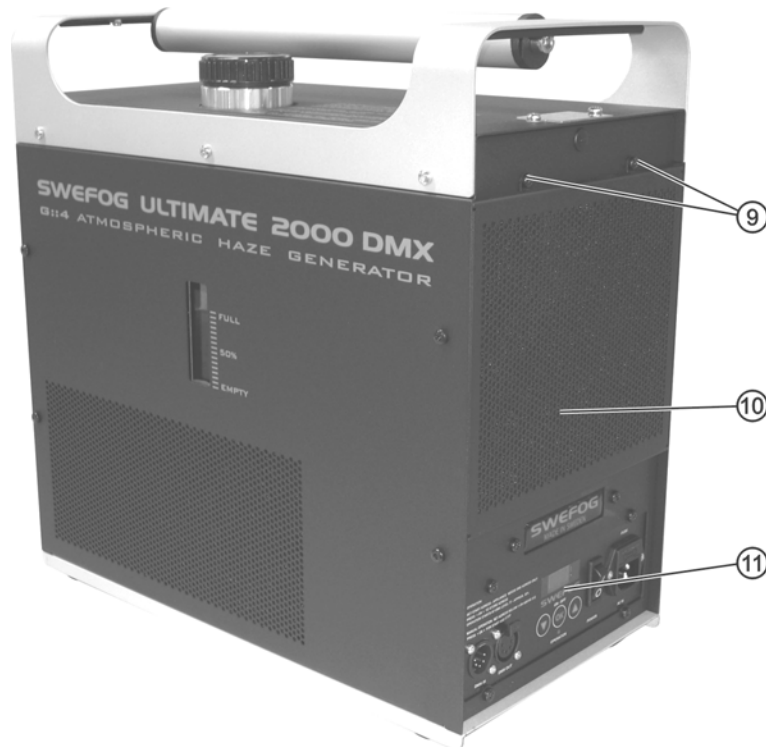
6. OPERATION :

6.1 Explore your machine:



Ultimate 2000 DMX front & left side

1. Ergonomic AluGrip handle
2. Machine label with serial number & electrical data
3. Fluid fill
4. Haze outlet
5. Fluid level indicator
6. Left side air inlet
7. Front side air inlet
8. Heavy-duty rubber feet



Ultimate 2000 DMX back & left side

9. Internal fan air inlet filter holder screws (release both screws when replacing the filter mat).
10. Internal fan air inlet filter frame.
11. Control panel & connectors.

6.1.1 Air inlet filter mats on machine housing:

Ultimate 2000 DMX uses two air filter mats covering all air in/outlets on the machine housing. The filter mats protect the machine from dirt and dust. It is very important though, to clean or replace the filter mats when clogged by dirt and dust. If not, the clogged filters will prevent a sufficient air flow through the machine housing, which may cause internal mechanical parts (i.e. the compressor) to overheat.

To ensure good performance and extended lifetime of compressor, fans and other expensive components, check filter mats frequently. If dust or dirt is clogging the inlets, replace the filters immediately. Do not use the machine if sufficient air flow cannot be guaranteed

Replacement of the filter mats is easy and can be done in a few minutes only. We suggest the mats be replaced on a regular basis to ensure good functioning at all times. While doing this we recommend general internal cleaning of machine housing as well as checking, and replacing the following filters, if needed:

- Air inlet filter mats, one covers front, left & right sides of machine housing, the second mat covers the rear fan inlet.
- Replacement of compressor's air inlet filter cartridge.
- Cleaning of the compressed air filter cartridge.
- Cleaning of the nozzle unit (only necessary if haze output is low)
- Cleaning or replacement of haze fluid filter
- If necessary, empty and clean the fluid tank

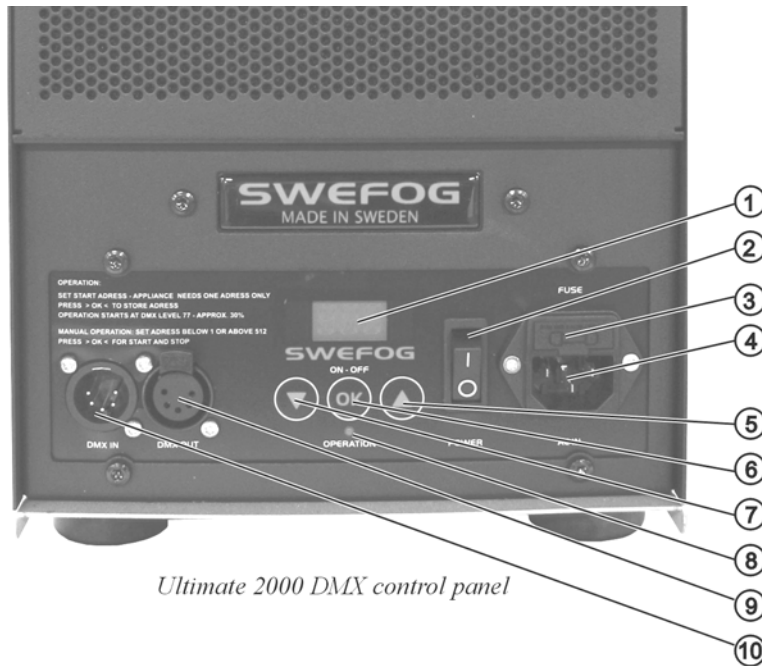
NOTE: The filter mats are made with a special material that withstands the oil particles in the haze surrounding the machine during operation. The size of the open cells in the filter material is also tested for optimum performance, to ensure good airflow, preventing dust from coming in to the machine housing. Using other open cell foam mats may cause problems. Damage to, or overheating of, internal parts is NOT covered by manufacturer's warranty if non-original filters have been used.

The service & maintenance manual contains a detailed description on how to perform the above service & maintenance.

6.1.2 Ergonomic AluGrip™ handle:

Ultimate 2000 DMX is equipped with a new, ergonomic, AluGrip™ handle allowing one or two-hand carriage. The handle is made with a solid aluminium profile to ensure strength and lightweight. To ensure a safe grip, always keep the handle clean and free from oil residues to avoid a slippery surface, which can be dangerous.

6.2 Control panel & display:



- DMX control panel:
Display
1. LED display
 2. Power ON / OFF switch
 3. Mains fuse (slow blow). 230V: 4 Amp. 115V: 8 Amp.
 4. IEC mains inlet
 5. "UP" button
 6. "OK" button
 7. "Down" button
 8. Operation LED indicator
 9. DMX out XLR (female)
 10. DMX in XLR (male)
XLR Pinout:
1 = gnd / sleeve
2 = signal -
3 = signal +

6.2.1 Normal operation:

NOTE: When the machine is being switched off, wait at least 1 minute before it is switched on again. If not, the high starting current may cause the mains fuse to blow.

- Place the machine on a level surface.
- Remove the fill cap on top of the machine. Fill with original "Swefog Ultimate" fluid. Fill slowly. DO NOT overfill. NEVER exceed the "max" fluid level. Close the fill cap before switching on the machine.
- NEVER fill fluid while machine is operating.
- The machine is continuously cooled by several fans and an intercooler and can operate without interruption as long as there is mains power and fluid supply.
- Operating the machine with an empty fluid tank does not damage the machine.
- Connect a mains cable to a suitable mains outlet, (230V min. 5 Amps capacity, 120V min. 10 Amps capacity). NOTE: Due to the high starting current, the machine consumes approx. 4 times its regular power consumption at the moment it is switched on. Always use mains fuses of the slow-blow type.

6.2.2 Control – DMX 512 & manual on / off:

If controlled with DMX, the machine uses one channel only, and reads all channels between 001 and 512. The machine is ON at DMX level 77 (approx. 30%). XLR pinout:

Pin 1 = gnd / sleeve, pin 2 = signal - , pin 3 = signal +

ON / OFF can be controlled with DMX or manually.

There are only two ways to control an Ultimate 2000 DMX:

1. Manually by pressing OK button, or:
2. via DMX 512.

Control with DMX signal only:

- Connect a DMX cable to the male XLR connector. The DMX cable is linked to a standard DMX 512 source (e.g. a light desk).
- Set mains switch to “1”. *The display indicates the last stored address, or “OFF” if the last operation mode was manual.*
- Select a DMX address between 001 and 512 (the machine uses one channel only): Use the up/down keys to select address (the display flashes while the new address is being selected). *Tip: Press and hold “up” or “down” key for faster count.*
- Press “OK” to store the selected address. *The display will now stop flashing, to confirm the address is stored.*
- When the level of the selected DMX address is 77 or more, the machine is on. When the level is 76 or less, the machine is off. The red “operation” LED indicates the machine is switched on by the DMX electronics.
- If the DMX source is manually controlled with potentiometers make sure the potentiometer is not adjusted only around level 77. It can make the machine go on and off repeatedly. The output cannot be controlled with the DMX level, only through the operating intervals. The best way to control the machine without the risk of an unwanted start or stop (and risk of damage to compressor motor), is to set the level at 0 (0%) for off, and 255 (100%) for on.

Tip: The last selected address will be stored in the processor’s memory when the machine is switched off and/or mains voltage is disconnected. The address is set as default next time the machine is switched on.

In an application where the machine is used with the same address every time (e.g. on tour or in permanent installations), it is not necessary programme again at power on, as the last selected address is pre-set as default.

If, for any reason, a different address is to be used temporarily: Set the temporary address, but do NOT press “OK” (the temporary address will flash in the display). The machine will respond to the temporary address until mains power is switched off. Next time it is switched on, the usual, favourite address will be set as default.

Manual control without DMX:

- Select an address below 1 or above 512 (the display indicates “OFF”).
- Press “OK” button to start and stop (the display indicates “On”. The red “operation” LED indicates the machine is on.

Remote control from external power sources:

Ultimate 2000 DMX cannot be controlled from external switch or relay units. Use the integrated DMX control, connected to a DMX light desk, or manual control only.



CAUTION!

NOTE: When external units are used for control of mains power, make sure that:

- No dimmer packs are used. The machine must be supplied with no (off) or full (on) mains voltage. Starting and stopping the machine is ALWAYS done with DMX 512 or manual on/off by using the “OK” button. On/off cannot be controlled by switching the mains power on/off.
- Fluctuating voltage or frequency will damage the machine.

6.3 Fluids:

All Swefog Ultimate machines have been developed and designed to work with Swefog Ultimate mineral-oil based fluids. If original fluid is used and regular maintenance is performed, the machine will work well for many years.

Swefog Technology Group AB have not tested the Ultimate hazers with any other fluids than the original types, therefore no guarantees can be made regarding performance, health hazards, residues, component damage/wear outs or other disturbances or inconveniences related to non-original fluids.

Many fluids may look the same at first sight, but the truth is that no fluids are identical. There is a significant risk of internal parts and materials being affected, especially parts made with plastics and rubber.

Swefog original fluids are made with a special, medical-grade white mineral oil, with a viscosity especially developed to perform well with the small nozzles and low air pressure used in the Ultimate hazer series. The oils used during the manufacturing process are also filtered several times to ensure an extremely clean fluid. Swefog Ultimate fluids are of medical grade, which is the finest oil quality available. Medical grade oils, which is a quality grade far better than “food grade” or “technical grade”, is also used in manufacturing of medicals and similar processes with extremely high demands on purity & cleanliness.

In a cracker hazer, like the Ultimate series, the oil fluid is processed, “cracked” to extremely small particles with the use of several spray nozzles. The haze is filtered and let out without any kinds of chemical changes, and made without the use of heat, which is the case in an ordinary smoke or haze machine. This means, that the characteristics of the fluid used is VERY important for the end result, such as: haze quality, separation, loss/absorption of light illumination power, smell/odour, hang time, dew time, health hazards, exposure levels, exposure time limits for actors and personnel etc.

A cheap fluid will never give you the same performance and quality as the original one; the fluid your machine was designed to use

Swefog Ultimate 2000 DMX has an extremely low fluid consumption, only 0,05 litre (0,01 U.S. gal) per hour at continuous operation at full output. A 5L (1,3 U.S. gal) canister will last for approximately 80 hours of continuous operation at full output.

Always use ORIGINAL fluid, to ensure the highest performance and a SAFE operation. Problems related to non-original fluids are NOT covered by Swefog’s 2-year warranty.

7. SERVICE, MAINTENANCE & REPAIR:

The Ultimate series is made with industrial standard components. If regular care and maintenance is performed, the machine will last for many years of regular use.

If you have good know-how and technical experience of cracker **hazers' electronics** and pneumatics, follow the service & maintenance manual, which can be downloaded from www.swefog.com.

If not, refer service tasks to qualified technical personnel, or contact a preferred Swefog dealer. Preferred dealers have qualified service technicians, and will be able to perform most service works.

8. SPECIFICATIONS:

| | |
|---------------------------|--|
| Type: | “Cracker” haze generator, pneumatic. |
| Fluid type: | Mineral oil-based |
| Operation: | Continuous |
| Fluid consumption: | Approximately 0,05 litre (0,01 US gal) per hour |
| Fluid reservoir capacity: | 2,5 litre (0,66 US gal) |
| Cracker nozzle type: | Swefog V-tec, 3-way vaporizing nozzles, aluminium / brass. |
| Power consumption: | 580 Watts |
| Dimensions LxWxH: | 382x203x390 mm (15”x8”x15,4”) |
| Weight: | 20,2 kgs (44,5 lbs) with empty tank |
| Location of assembly: | Swefog Technology Group AB, Filipstad, Sweden. |

SWEFOG WORLDWIDE WARRANTY:

Unpacking and Saving the Shipping Materials

The customer would be well advised not to discard the Swefog shipping carton and packing materials. These items are specifically designed to protect this product during transport.

If you ever need to return a product for repair or maintenance, you should return it in its original shipping carton and packing materials, or materials of the same standard. To avoid fluid leakage during shipping, place the carton on a small pallet and secure the carton to the pallet with the use of straps (min 2 straps). Remember, even with an empty tank, fluid leakage may occur due to fluid remains in the tank and haze filter. If a returned machine requires extra cleaning due to fluid leakage during transport, the owner will be charged for the extra labour required and/or replacement of damaged parts due to fluid leakage.

To protect the machine during transport, always ensure the machine is transported upright at all times!

Inspecting the Contents

Carefully remove the contents of each shipping carton and inspect the machine for signs of freight damage. In case of any such damage, notify both the shipping agent and the sender immediately (may it be the sales agent or the manufacturer).

Any damage incurred in shipping is the responsibility of the carrier. In the case of hidden damage, a claim should be made as soon as damage is discovered. All packing material should be retained for inspection.

NOTE: Freight damage claims are invalid for fixtures or other spare parts shipped in non-factory shipping cartons and packing materials.

Limited Warranty

Unless otherwise stated, Swefog products are covered by a two-year parts and labour limited warranty.

Guarantee will be invalid if the Swefog machines have been used with non-original fluids.

It is the owner's responsibility to furnish receipts or invoices for verification of purchase, date and dealer or distributor. If purchase date cannot be provided, date of manufacture will be used to determine warranty period.

Returning an item for repair covered by warranty

Before any units are sent to Swefog for repair, a Return (RMA) Form has to be filled out. This RMA form can be obtained by contacting Swefog info@swefog.com or downloaded from our website www.swefog.com. The manufacturer will then make the final determination as to whether or not the unit is covered by warranty. All shipping will be paid by the purchaser. Transport costs for the returned units are not covered by the warranty and will henceforth be at the cost of the sender.

Under no circumstances will freight collect shipments be accepted.

Repair or replacement as provided for under this warranty is the exclusive right of the customer.

Swefog Technology Group AB shall not be liable for any indirect, incidental or consequential damage, including lost profits, sustained or incurred in connection with any product or caused by product defects or partial or total failure of any

product regardless of the form of action, whether in contract, tort (including negligence), strict liability, or otherwise and whether or not such damage was foreseen or unforeseen.

Warranty is void if the product is misused, damaged, or modified in any way.

