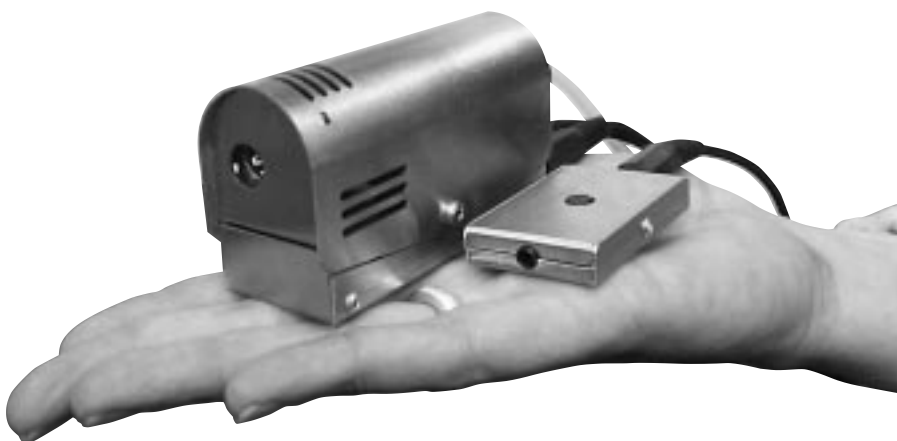
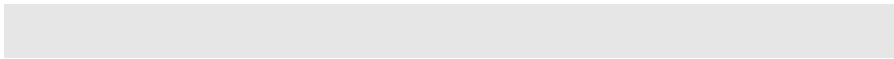


Operating manual

TINY-FOGGER



New version





Thank you for purchasing this TINY-FOGGER.

As you will notice from the table of contents, the manual for your new gadget is quite extensive.

To guarantee perfect and successful work with this machine, please take some time to read the manual carefully.

And finally we wish you a lot of fun when using your new TINY-FOGGER.

Set of Equipment supplied

- 1 TINY-FOGGER with connected battery cable
- 1 control panel with cable
- 1 rechargeable battery 12V / 2 Ah
- 1 charger
- 1 fluid tank (50 milliliters) with quick connector and air valve
- 1 bottle of fluid (250 milliliter)
- 4 T-Clips for connecting the fluid tubing and the control cable

When the order includes a radio remote, the following items are supplied additionally:

- 1 receiver with stereo jack
- 1 radio remote
- 1 manual „Radio remote control“

Please check whether all the products you ordered are supplied.

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1. Procedure of the TINY-FOGGER

The TINY FOGGER is a battery-operated, microprocessor-controlled mini fog generator. It is based (as are most fog generators) on the vaporizer principle, i.e. a glycol fluid is evaporated and condenses into fog when leaving the fog nozzle. However, the TINY-FOGGER only heats when fog is actually needed.

It uses only 20 milliamperes in idle status and consequently it may remain connected to the the battery for several hours with no discharging to speak of. When emitting fog a strong current of 5 to 6 AMP runs with peak levels of 12 to 13 AMP.

The following sequence produces fog:

- a) Warming up (1 second, without pumping fluid).
- b) The pump runs between 1 second and 2 minutes – depending on application.
- c) Heat again (15 seconds without pumping any fluid).

During the phases a and c a new start of the fogging process is possible. Just press the gray start/program button.

2. Safety Instructions

A fog machine is not a toy!

- Very hot steam escapes from the nozzle. Danger of getting burnt.
- Occasionally very hot droplets of fluid may escape when in operation. Thus never aim at persons directly and keep a minimum distance of 3 m to the nozzle.
- Never touch the nozzle when in operation. Danger of getting burnt.
- The location for the machine must be non-flammable, non-combustible and not sensitive to heat. It has to be twice as big as the machine.
- Keep a minimum distance of 60 cm to all flammable, combustible objects and objects sensitive to heat.
- Glycol is alcohol and burns with a slightly bluish, almost invisible flame. Never point the fog at strong sources of ignition like fire or pyrotechnic effects.
- Never open the machine and leave the machine unattended when connected to a power supply.
- The visibility has to be more than 2 m in rooms where people walk around.
- Only use the supplied TINY-FLUID. Different types of fluid do not generate the fog you require and destroy your fog generator.
- Do not swallow the fog fluid. Keep it away from children. In case of eye contact, rinse with a lot of water. Consult a doctor should you have accidentally swallowed some fluid.
- Spilled fluid or splashed fluid droplets can cause slip hazard. Mop up the fluid and dispose of it according to regulations. TINY-FLUID is completely water-soluble and biodegradable.
- Fog may activate smoke detectors.

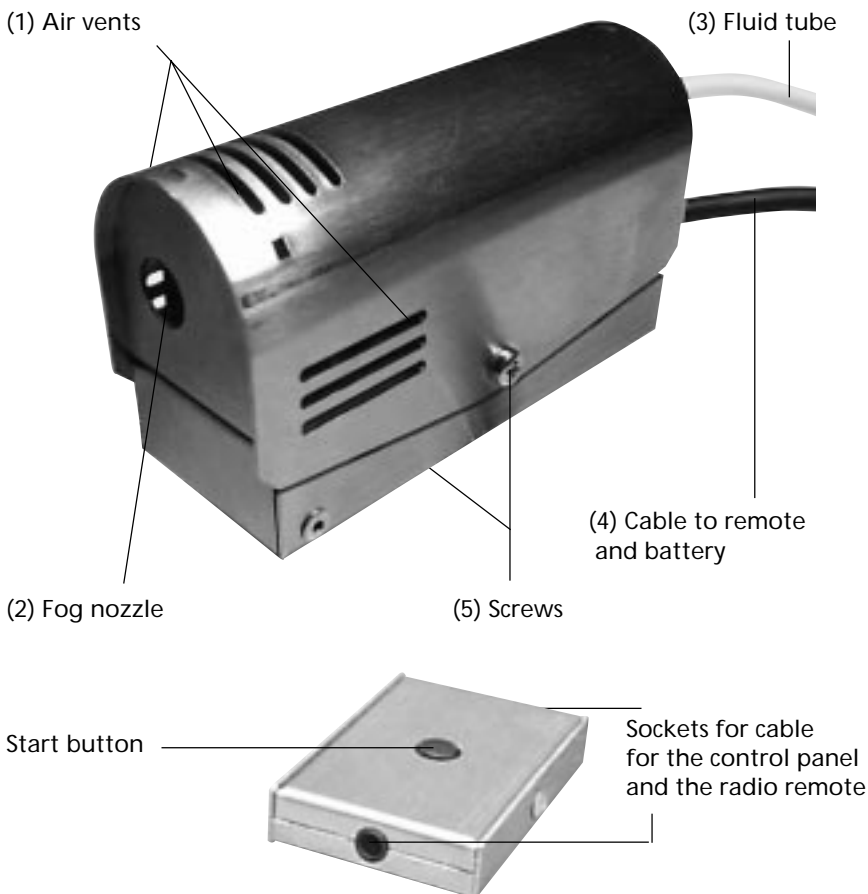
Artificially-made fog can be produced in many different ways. The method used here to produce fog, with a device which works according to the vaporizer principle, is the most harmless one.

No case has so far been reported in which a sound human being has been harmed because of using our device to produce artificial fog. However, this can only be guaranteed if the professional fog generators are used accordingly, i.e. at the correct vaporization temperatures as well as with the correctly mixed fog fluid.

We, however, recommend: **People with health problems or problems of the respiratory tract or with an inclination for allergies should avoid any contact with artificially-made fog.**

3. Operating the TINY-FOGGER

3.1 Description of the Parts



3.2 Selecting the Location

The location for the TINY-FOGGER must

- be dry
- guarantee sufficient air supply
- have sufficient distance (at least 30 cm) from inflammable materials
- have very little vibration
- have an ambient operating temperature between 5° C and 45° C
- have a relative air humidity of less than 80%.

3. Operating the TINY-FOGGER

3.3 Mounting the TINY-FOGGER

If the Tiny-Fogger is to be built in props or similar, make sure that a fog-free air supply is guaranteed. Too high a fog concentration can condense inside the machine and can result in damages caused by moisture.

When installing the TINY-FOGGER make sure that

- no fog is passed back into the fog generator,
- no condensed fluid runs into the apparatus,
- the air vents (1) are not covered or concealed,
- no objects jut out into the fog nozzle (2) (danger of destruction of the fine wires of the vaporizer).

3.4 Starting up

- 1) Pour the TINY-FLUID into the fluid bottle and firmly lock the bottle. Plug the connecting spout of the fluid tubing into the quick connector of the fluid bottle (audible click).
Check the cleanness of the connecting spout, so that no dirt (fluff etc.) can be sucked in by the pump. Even the smallest impurity immediately leads to clogging of the machine.
- 2) Plug the cable of the control panel or the cable of the radio remote (only, if radio remote control was supplied) into the stereo jack socket at the machine **before** you connect the TINY-FOGGER to the battery.
- 3) Connect battery cable to the battery.
- 4) Press start button at the control panel (black) briefly. After approx. 1 second the unit generates fog according to the fogging time preset by the factory.

Caution:

The wires in the fog nozzle must not be damaged. Should these wires be damaged, the unit will no longer work correctly when generating fog and the vaporizer must be changed (see section 6.1).

3. Operating the TINY-FOGGER

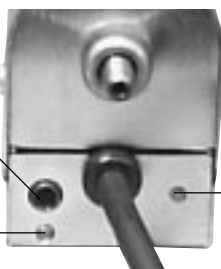
3.5 Programming the fogging time

For some applications it will be useful to program in a fixed fog amount, which can be easily reproduced later. To program a fogging duration, use the blue button [11] at the back of the machine.

The blue button must be pressed and held down until the desired fogging time is achieved – then release it. This programmed fog amount can then be reproduced by briefly pressing the button on the control panel or the topmost button on the receiver of the radio remote. You can reproduce the programmed fog amount in this manner as often as you like. The programmed fogging duration will remain in memory until you program a new one in the above manner.

Socket for connecting the cable of the control panel or the receiver of the radio remote

Yellow LED
(Battery status display)



(11) Switch for programming the fogging time and for calibrating a new vaporizer

If you wish to control the fogging time manually, with no programmed fogging duration whatsoever, then press the blue button once briefly. Now the machine will produce fog for as long as you press the button on the control panel or the transmitter of the radio remote.

3.6 Battery Status Display

The yellow light-emitting diode (LED) on the TINY-FOGGER indicates how strong/efficient the battery still is and/or when it must be recharged.

- 1) LED flashes slowly:
Battery capacity of 15% – 100 %,
the battery is fully operational.
- 2) LED flashes fast:
Battery capacity below 15% –
the battery should be changed and/or charged.
- 3) LED lights up permanently:
the battery is flat.
or: the Vaporizer is damaged (see point 6.1)

4. The rechargeable battery

The supplied battery is a maintenance-free 12V lead-gel accumulator which is calibrated in the best possible way with the connected loads of the TINY-FOGGER. It can be used in every position.

The connection to the TINY-FOGGER or the charger is established by means of a battery clip which also serves as protection against incorrect polarity.

4.1 Capacity

The battery has a capacity of 2 Ah and is supplied in a charged status. A fully-charged battery can generate more than 100 fog emissions of 4-5 seconds. The permanent fogging time amounts to 10 minutes.

When used correctly, the battery holds its capacity for several years and/or some hundred charge/discharge cycles.

4.2 Operating and Storing

Lead-gel batteries are a very robust bank of capacitors which need little care and maintenance. However, their working life can be shortened rapidly by storing them when discharged.

Caution: Do not store a discharged battery! As a result, it can lose a large part of its capacity after two weeks!

4.3 Charging the battery

For charging the battery please use the supplied automatic charger. A discharged battery can be charged within 6-8 hours.

If the battery is discharged, the red LED on the charger will be alight.

If the battery is fully charged, the red LED on the charger will not be alight.

4. The rechargeable battery

4.4 Safety Regulations

- The supplied battery can supply high discharging currents. Therefore:
 - Never short-circuit the battery.
 - Never change the cable sizes.
- Positioning of the battery
 - Make sure the battery is not placed near sources of heat,
 - Should you place your battery near a source of heat, the performance of the battery will decrease the more the temperature rises.
- Using the battery in closed units
 - Don't use the battery in completely sealed casings or units.
 - To prevent a blast of hydrogen leaking from the battery, the casings must be ventilated.
- Dismantling the battery
 - Don't dismantle batteries as they do contain electrolytes which may damage clothing or hurt the skin. If the electrolyte comes in contact with skin or eyes, immediately rinse with water or consult a doctor.
- Avoid short-circuits
 - Do not short-circuit the battery: A short circuit of the battery causes very high voltages which can damage the battery.
- Keep away from fire
 - Do not expose the battery to fire or burn it. The battery might explode.

4.5 Technical Data

Model	Panasonic LC-TA122PU lead-gel battery
Output voltage	12 V, 2.0 Ah/20 HR
Temperature range	5° C to 45° C
Dimensions	180 x 22 x 61 mm
Weight	650 g

5. The Charger

5.1 Operation

An automatic charger for 12 V lead-gel battery is supplied.

- Plug the charging set BCA 120-600 to a power socket (220-230 V~/50Hz or 110 V~/50Hz).
- Connect the output line of the charger with the battery to be charged.
- Check whether the charge display (red LED) lights up.
- As soon as the red light on the charge display goes out the charging process is completed.
- Disconnect the charger from the socket.
- Disconnect the battery from the charger.

5.2 General Notes

- 1) If the charge display does not light up after connecting it to the battery, check the following points:
 - quality of the connections (possible oxidation of the battery ends)
 - state of the battery (a stored, uncharged battery may become sulfated and can not hold a charge)
- 2) If the control display lights up permanently, this might indicate probable battery problems:
 - short circuit within the battery or in the output lines
 - incorrect Polarity of the connected battery if the red LED is permanently on.
 - the battery voltage can not reach 13,8 V (especially in the case of old batteries)
- 3) Protect the unit against rain
- 4) Use the charger exclusively for charging the TINY-FOGGER battery

5. The Charger

5.3 Technical Data

Model	BCA 120-600
Input voltage	230 V~ or 110 V~/50 Hz +/- 10%
Output voltage	12 V =/600 mA
End of charging	at 13,8 V =
Temperature range	-10° C to +35° C
Insulation	4 kV between primary and second
Setting	regulated at 13,8 V preset
Class of Insulation	IP 40
Protection class	II
Case material	Noryl SE 1
Dimensions	80 x 56 x 46 mm
Display	LED red (charging display) goes out at a charging current of < 60 mA
Weight	0.5 kg

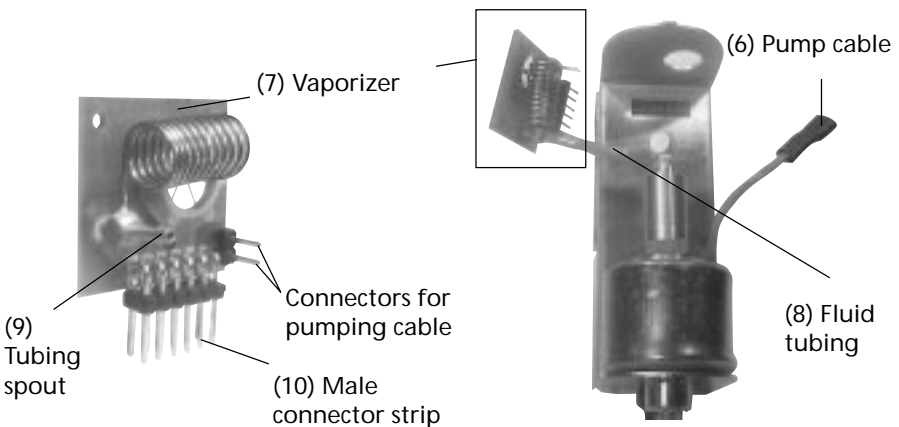
6. Service and Maintenance

6.1 Changing the Vaporizer

The micro vaporizer especially developed for the TINY-FOGGER has a limited working life. Depending on application duration, you can achieve between 2,000 and 5,000 fogging cycles. After these the fogging performance declines considerably and the vaporizer must be changed.

6.1.1 Removal of the Vaporizer

- Separate the TINY-FOGGER from the battery (take off the battery clip),
- Unscrew the two screws (5) with a suitable screwdriver (No. 1. Phillips),
- Take off the casing cover,
- Unplug the connector for pump cable (6),
- Now you can slide out the vaporizer (7) upwards,
- Remove the blue fluid tubing (8) from tubing spout (9) of the vaporizer. In case the tubing does not come off, you can pull it down with a pair of pliers or a similar tool,
- Clean the interior of the unit with an absorbant, fluff-free cloth.



6. Service and Maintenance

6.1.2 Installation of the Vaporizer

- Connect the machine to the battery, press the blue button [11] at the back of the machine once and disconnect the machine from the battery
- Plug the blue fluid tubing (8) onto tubing spout (9) of the new vaporizer
- Plug the male connector strip (10) of the vaporizer into the female connector strip of the unit
- Connect the pump cable (6) to the vaporizer
- Check the connections once again and make sure that the fluid tubing is not twisted or bent
- Fasten the casing cover with the two screws (5). Ensure that the base of the casing and the vaporizer engage into the corresponding guide grooves of the lid part

6.1.3 Calibration of the Vaporizer

Since all evaporators have different electrical qualities, the TINY-FOGGER must be calibrated after every exchange of the vaporizer.

IMPORTANT: During the calibration process the vaporizer temperature must be at 20° C. Never start fogging before the calibrating process. Too cold or too warm units must first adapt to the room temperature (20° C).

- With the battery disconnected press and hold down the blue button [11] at the back of the machine.
- Connect the battery clip to the battery and then release the button. The yellow LED (battery status display) will flash six times with a short pause after the second and the fourth flashes.
- The calibration process is now complete.

6.2 The machine does not work perfectly

6.2.1 There will be no fog if...

- the battery is discharged (yellow charge indicator (LED) lights up permanently, the pump automatically cuts off) => charge the battery
- the fluid tank or the fluid tubing is empty or the connecting spout of the fluid tubing is not correctly plugged into the quick connector on the fluid tank => refill the fluid tank, check to see that the tubing plug is properly fitted to the quick connector
- the vaporizer is clogged or broken => change the vaporizer (see point 6.1)

6. Service and Maintenance

6.2.2 The yellow LED lights permanently if...

- the battery is discharged => disconnect the machine from the battery and charge the battery
- the vaporizer is clogged or broken => change the vaporizer (see point 6.1)
Note: the new vaporizer must be calibrated as explained in point 6.1.3!

6.2.3 If the new vaporizer can't be calibrated (no confirmation of the process by the LED), please perform the following procedure:

- Disconnect the machine from the battery
- Remove the new vaporizer as explained in point 6.1.1
- Connect the machine to the battery and press the blue button [11] at the back of the machine once
- Disconnect the machine from the battery
- Install the new vaporizer again and calibrate it as explained in point 6.1.3

6.3 Care and Maintenance

To ensure perfect performance of the TINY-FOGGER, you should consider the following notes:

- Make sure the fluid bottle as well as of the connecting spout and the quick connector are clean and free from small bits of dirt.
- Clean the unit from time to time, especially if you use it in a built-in state/condition. Unscrew the unit with a suitable screwdriver (No. 1 Phillips) and wipe it out carefully using a dry, fluff-free cloth.
- Should the vaporizer become clogged, please change it in the way as described in section 6.3.
- If the TINY-FOGGER isn't in use for a longer time, please take care that the fluid tube is emptied. It could be that some fluid drops come out of the nozzle and the surrounding gets wet and greasy.

7. Technical Data

Procedure	Vaporizing fog generator
Power requirement	70 Watts
Voltage	12 V battery
Warm up time	< 1 sec
Fluid tan capacity	50 ml
Fogging time	programmable
Continuous output with battery	10 min.
Temperature control	microprocessor
Control	cable remote radio remote (option)
Dimensions TINY (L x W x H)	91 x 34 x 51 mm
Weight TINY	approx. 300 g
Manufactured for	Theatre Effects, Inc. 642 Frederick Street Hagerstown, Maryland 21740-6815 U.S.A. Phone: 301-791-7646 / Toll Free: 800-791-7646 Fax: 301-791-7719 E-mail: service@theatrefx.com Website: www.theatrefx.com

8. Warranty Conditions

For the miniature fog machine TINY-FOGGER Look' guarantee is:

1. Free of charge, subject to the following conditions (No. 2 - 6) we will repair any defect or fault in the unit if it is caused by a proven factory fault and has been advised immediately after appearance and within 6 month of delivery to the end user. Insignificant deviations of the regular production quality does not guarantee replacement rights, nor do faults or defects caused by water, by generally abnormal environment conditions or Force Majeure.
2. Guarantee Service will be done in the following way: Faulty parts will be repaired or replaced (our choice) with correct parts. Faulty units have to be brought to us or our service centres or to be sent to us or our service centres at customer's expenses. The invoice and/or receipt showing the purchase date and the serial number has to come with the faulty unit, otherwise this will not be guarantee service. Replaced parts become our property.
3. The customer loses all rights for guarantee services, if any repairs or adjustments are done to the units by unauthorized persons and/or if spare parts are used which are not approved by us. The right of guarantee service is also lost if fluids other than the original „TINY-FOGGER FLUID“ have been used or if units are sent to us with full fluid bottles. Also non compliance with the instructions in this manual or mistakes by incorrect handling/ treating of the machine will lead to a loss of guarantee and also any faults and damages caused by undue force.
4. Any freight costs arising in connection with the guarantee services have to be born by the customer.
5. Guarantee services do not cause an extension of the guarantee time or the start of a new guarantee time. The warranty for replaced parts ends with the guarantee time of the whole unit.
6. If a defect/fault can not be repaired by us in a satisfactory time, we will, within 6 months after sale of the unit, on choice of the customer, either:
 - replace the whole unit for free or
 - refund the lesser value or
 - take back the whole unit and refund the purchase price, but not more than the usual market price at the time of the refund.
7. Further claims, especially for damages, losses etc. outside the unit are excluded.

Other guarantee regulations may be valid outside Germany. Please check with your dealer!

If you should send the unit for service, do not forget to remove any liquid from the fluid bottle.

