

Operating Manual

TINY-FOGGER

- 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.

CITC
1420 80th St. SW Suite #D
Everett, WA 98203
(888) 786-CITC
www.citcfx.com

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 (1.69 oz./50 ml) with quick connector and air valve
- 1 bottle of fluid (8.45 oz./250 ml)
- 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.

Contents

1. Description	6
2. Safety Instructions	4
3. Operating the TINY-FOGGER	5
3.1. Selecting the Location	
3.2. Mounting the TINY-FOGGER	
3.3. Starting-up the TINY-FOGGER	
3.4. Programming the fogging time	
3.5. Status Display of the Battery	
3.6. Wiring of connectors	
4. The Rechargeable Battery	10
4.1. Capacity	
4.2. Operating and Storing	
4.3. Charging the Battery	
4.4. Safety Instructions	
4.5. Technical Data	
5. The Charger	12
5.1. Operating the Charger	
5.2. General Notes	
5.3. Safety Instructions	
5.4. Technical Data	
6. Service and Maintenance	15
6.1. Changing the Vaporizer	
6.1.1. Removal of the Vaporizer	
6.1.2. Installation of the Vaporizer	
6.1.3. Calibrating the Vaporizer	
6.2. Troubleshooting	
6.2.1. No fog	
6.2.2. The yellow LED lights permanently If the new vaporizer can't be calibrated...	
6.3. Care and Maintenance	
7. Technical Data	19

1. Description 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 battery for several hours with no discharging. When emitting smoke, it uses a strong current of 5 to 6 AMP.

The following sequence produces fog:

- a) Warming up (1 second, without pumping fluid).
- b) The pumps runs
- 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

- 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 10 feet (3 m) from the nozzle.
- Never touch the nozzle when in operation. Danger of getting burnt.
- The location for the machine must be within a non-flammable, non-combustible and non-sensitive to heat area. If enclosed, the area should be ventilated or twice as big as the machine.
- Keep a minimum distance of 24 " (60 cm) from 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.
- 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 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. Test if detectors are active by 1st notifying responsible parties, i.e. maintenance, fireman, etc.

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 human beings have been harmed because of using our device to produce artificial fog. However, this can only be guaranteed if the professional fog generators are used according to instructions and in a responsible manner.

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

3. Operating the TINY-FOGGER

3.1 Selecting the Location

The Location for the TINY-FOGGER must

- Be dry
- Guarantee sufficient air supply
- Have sufficient distance [at least 12 "(30 cm)] from inflammable materials
- Have very little vibration
- Have an ambient operating temperature between 41°- 113 F (5° - 45° C)
- Have a relative air humidity of less than 80%

3.2 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 just out into the fog nozzle (2) (danger of destruction of the fine wires of the vaporizer).

3.3 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 cleanliness of the connecting spout, so that no dirt can be sucked in by the pump. Even the smallest impurity immediately leads to clogging of the machine.
- 2) Plug the mini-jack into the control panel (or the cable of the radio remote) and into the stereo jack socket at the machine "before" you connect the TINY-FOGGER to the battery. If you have purchased a wireless remote, you may plug its stereo mini-jack into the remote control jack.
- 3) Connect battery cable to the battery.
- 4) Press star button at the control panel (black) briefly. After approx. 1 second, the unit generates fog according to the fogging time preset by the factory.

3. Operating the TINY-FOGGER

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)

3.4 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.

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 controller panel or the transmitter of the radio remote.

3.5 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)

3.6 Wiring of connectors

Mini – Stereo jack plug:

Slieve = Ground, Ring = switch on/off, Tip = 12 V DC (+) output.

4. The Battery

The supplied battery is a maintenance – free 12V Lead-gel accumulator that 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 lit.

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

4. The 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 may 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.
- 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-TA 122PU Lead-gel battery
Output voltage	12 vdc 2.0 Ah/20 HR
Temperature range	41° - 113° F (5° - 45° C)
Dimensions	7" x 1" x 2 ½ " (180 x 22 x 61mm)
Weight	23 oz. (650 g)

5. The Charger

5.1 Operation

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

- Connect the charging set FW 7208/12 to a power socket (100-240v ~ /50Hz – 60Hz). An adapter for euro plug is available.
- 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 in 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 light 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 Safety Instruction

- Use indoor in dry rooms only.
- Do not use in areas where there is danger of explosion (garages).
- Charges only "rechargeable sealed lead – acid batteries".
- Keep charger away from children.
- Charging should only take place in adequately ventilated areas.
- This charger should only be disconnected from the mains when not in use.
- Do not use the lead to disconnect the plug from the mains.
- An authorized dealer is to be contacted at once in case of any damage.
- Protect the unit against oil, grease, aggressive detergents and solvents as unit may be destroyed.
- If a leak or if main pins are affected, have the unit checked immediately by an authorized dealer.

5.4 Technical Data

Model	FW 7208/12
Input voltage	110–240 V~/50 Hz – 60 Hz/250 mA/18 VA
Output voltage	12 V = /1 A/12 VA
Display	LED red (charging display)

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 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 absorbent, fluff-free cloth.

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 exchange of the vaporizer.

IMPORTANT: During the calibration process, the vaporizer temperature must be at 68° F (20° C). Never start fogging before the calibrating process. Too cold or too warm units must first adapt to the room temperature 68° F (20° C).

- With the battery disconnected press and hold down the blue button (11) at the back of the machine
- Connect 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)

6.2.2 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 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 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 long 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 area gets wet and greasy.
- The battery should be charged before storing.

7. Technical Data

Procedure	Vaporizing fog generator
Power requirement	70 Watts
Voltage	12-v battery
Warm up time	< 1 sec
Fluid tank capacity	1.5 oz (50 ml)
Fogging time	Programmable
Continuous output with battery	10 min.
Temperature control	Microprocessor
Control	Cable remote radio remote (optional)
Dimensions (L x W x H)	3 1/2" x 1 1/2" x 2" (91 x 34 x 51mm)
Weight	Approx. 11 ounces (300 g.)
Manufactured for	CITC 1420 80th St. SW Suite #D Everett, WA 98203

Limited Warranty conditions

For the Tiny Fogger

1. Free of charge, subject to the following conditions 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 30 days of delivery to the end user. Insignificant deviations of the regular product 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 shipped to us or sent to us at customer's expense. The RA# has to come with the fault, unit.
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" has 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 any faults and damages caused by undue force will lead to a loss of guarantee.
4. Any freight costs arising in connection with the guarantee services are responsibility of the customer.
5. Guarantee services do not cause an extension of the guarantee time or the start of a new guarantee time. The warranty of 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 30 days after sale of the unit, our choice 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 refund.
7. Further claims, especially for damages, losses etc. outside the unit are excluded.

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

Send unit to: CITC
1420 80th St. SW
Suite #D
Everett, WA 98203
Tel : (888) 786-CITC
E-mail : info@citcfx.com