

MAIN TOPIC

Name

subject

**Soprano Family** needed

Technical  
Support

Name of the



# AGENDA

## Soprano Family

General System Description

System components & controls

Laser Power Supply

Soprano Block Diagram

Soprano Adaptor for Service Handpiece (loaner)

Replacing The Tip of the Handpiece

# AGENDA

## Soprano Family

Preventive Maintenance

Soprano ICE system

Soprano Platinum

# General System Description

## Soprano Family

- Originally the System was intended for hair removal and permanent hair reduction.
- The System is a portable unit
- Diode Handpiece delivers laser at a wavelength of 810nm
- Pre-selected pulse duration as function of the mode of operation and the fluence.

# General System Description

## Soprano Family

- Soprano XL/Xli/ICE Working in SHR Mode and HR Mode, Accord only SHR.
- Intuitive Graphic User Interface
- Incorporate NIR Handpiece for skin tightening

# General System Description

## Soprano Family

- The complete system consists of:
  - Laser console
  - Footswitch
  - Hand-piece
- Treatment is done by pressing the Hand-piece against the patient skin
- Light pulse is delivered when footswitch and hand-piece trigger are pressed

# General System Description

## Soprano Family

- The hand-piece tip is cooled to provide active skin cooling
- Laser parameters and other system features are controlled from the system console, it provides an interactive interface with system controller

# System components & controls

## Soprano Family

- Soprano system consists of the following:
  - Laser Console Unit that includes:
    - Isolating transformer
    - Circuit breaker
    - Service panel
    - Power supplies
    - Laser cooling system
    - Controls and service panel.
  - Diode laser handpiece.
  - NIR Handpiece
  - Footswitch

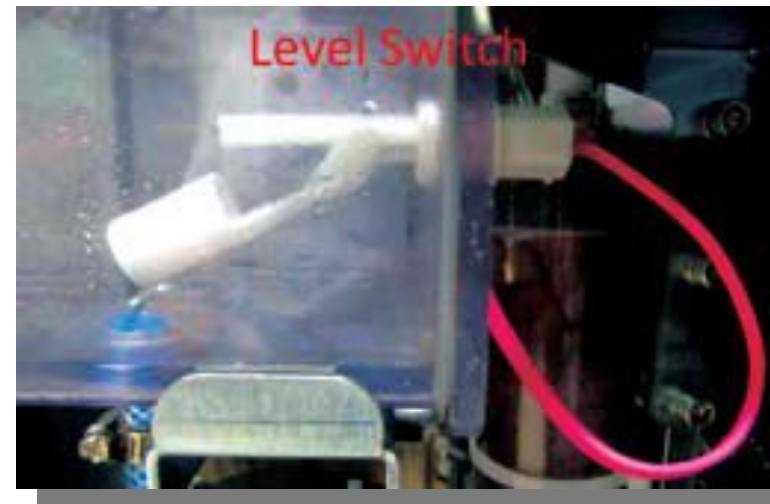
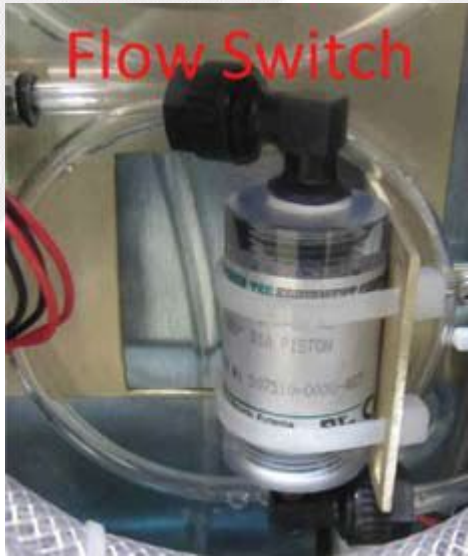


## Cooling System Soprano Family

- Closed loop system operating with deionized water comprised of:
  - Heat exchanger and 4 fans
  - Water tank
  - Water pump
  - Particles filter
  - Deionizing filter.
  - Accurate temperature switch
  - Flow switch
  - Level Switch.
  - TEC Unit in the handpiece and TEC Controller

# Water System Components

## Soprano Family



# System Components

## Soprano Family

- **Isolating Transformer**

- The system is equipped with an isolating transformer to ensure minimal leakage current to meet the standard requirements

- **Control Panel**

- The controls and indicators are located on the front panel of the system.
- The Soprano is a micro controller based system with a touch screen color LCD display.

## Power Supplies Soprano Family

- Laser Power Supply consist of:
  - Vicor Power Supply – supplies 25VDC, 1500W
  - Meg50, Current laser diode driver
- 24 VDC supplies voltages to the main CPU and LCD , it supplies power immediately after power ON
- 12/15 VDC supplies power to the TEC cooling and pump (for Older systems) after Start is pressed.
- 15 VDC supplies to the cooling pump aster start pressed

## Laser Power Supply Soprano Family

- The Vicor is activated after Start is pressed – Relay controlled
- The Vicor supplies 25VDC, 1500W
- The Vicor power supply is designed for 230VAC 50/60Hz.
- The Meg 50 is supplied with 25V from the Vicor and drives high current to the laser diode array.

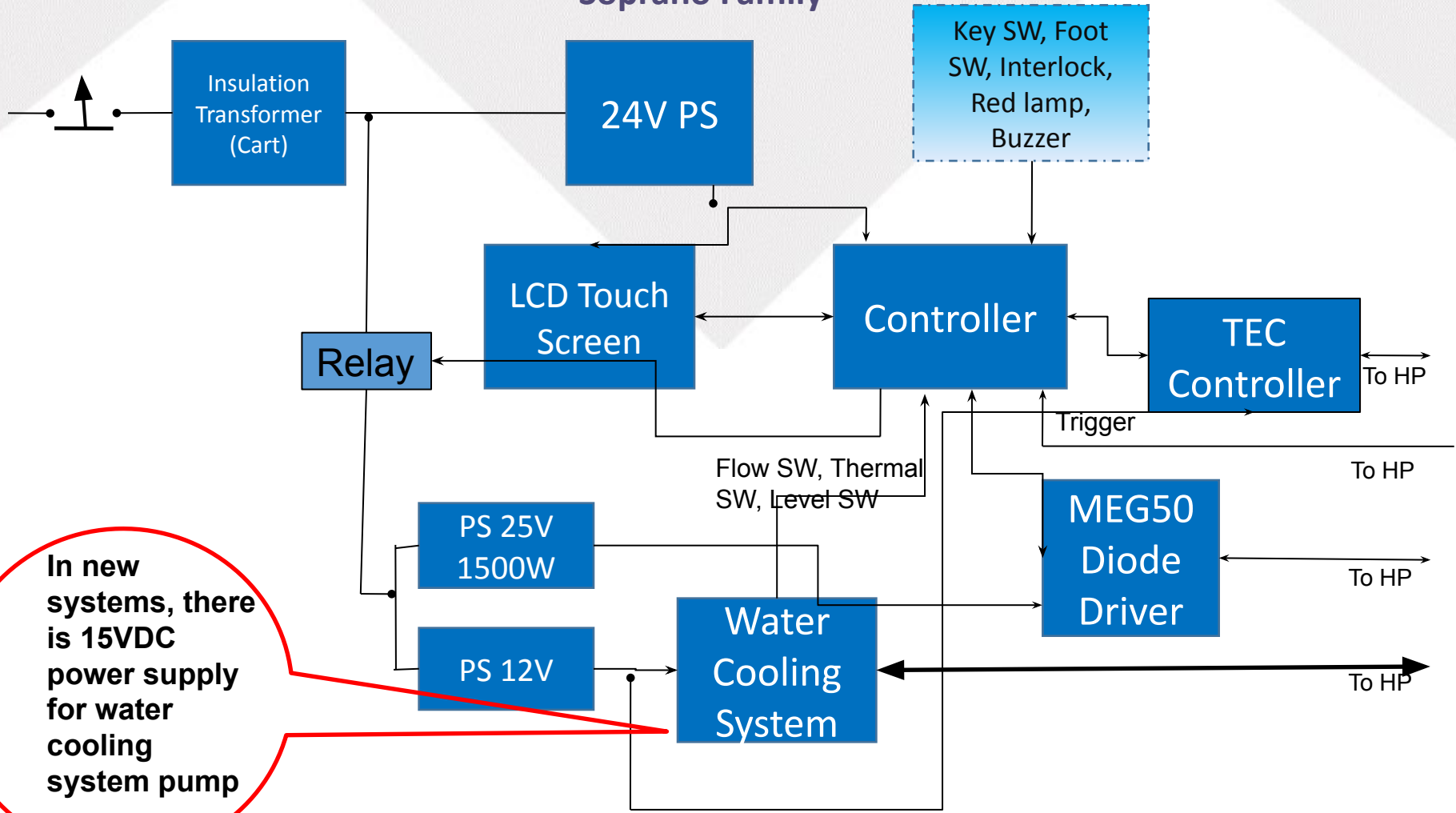
# Laser Power Supply

## Soprano Family

- The current delivered to the laser diode array is enabled only if three conditions are met:
  - No system malfunctions are detected.
  - The unit is in the READY mode.
  - The footswitch and the hand-piece trigger are pressed.

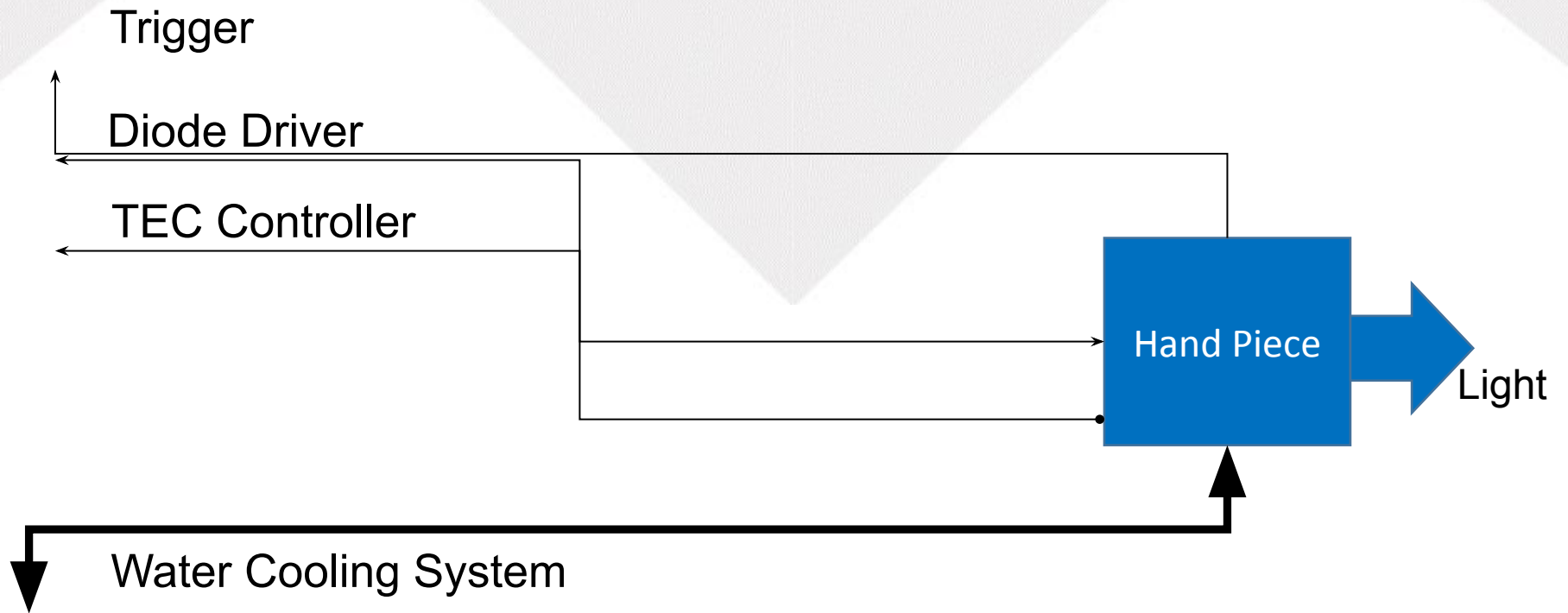
# Soprano Block Diagram

## Soprano Family



# Soprano Block Diagram Cont.

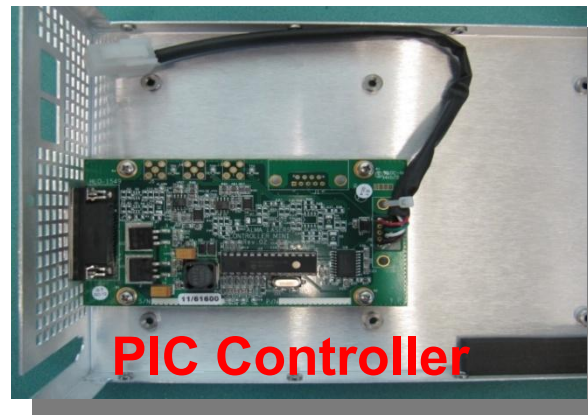
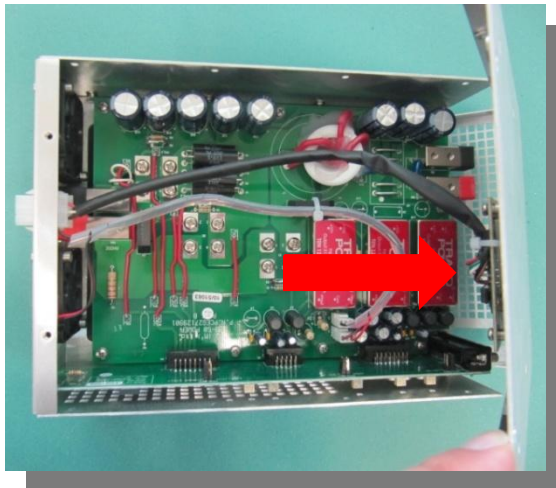
Soprano Family





# Soprano components

## Soprano Family



# Soprano Adaptor for Service Handpiece (loaner)

## Soprano Family



# Replacing The Tip of the Handpiece

## Soprano Family



Using Tweezers  
Remove the  
covers of the Tip  
Screws

# Replacing The Tip of the Handpiece

## Soprano Family



Release the  
two hex  
screws  
holding the  
tip

# Replacing The Tip of the Handpiece

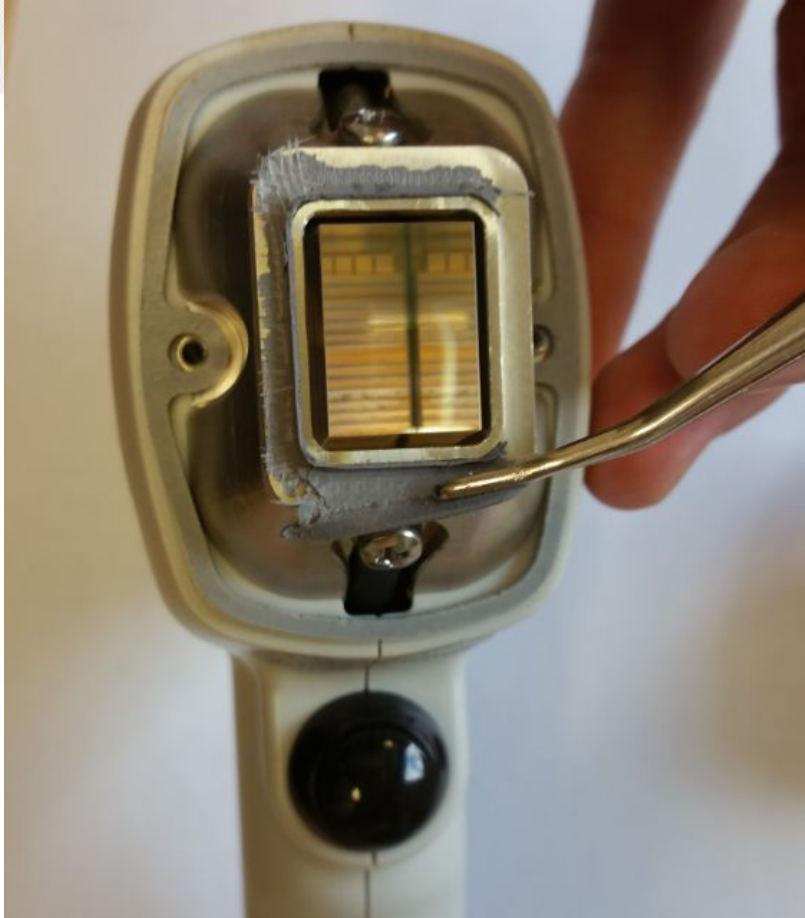
## Soprano Family

Shake the tip until  
it can be removed  
completely



# Replacing The Tip of the Handpiece

## Soprano Family



Remove the heat  
conductive and clean  
the surface with  
alcohol

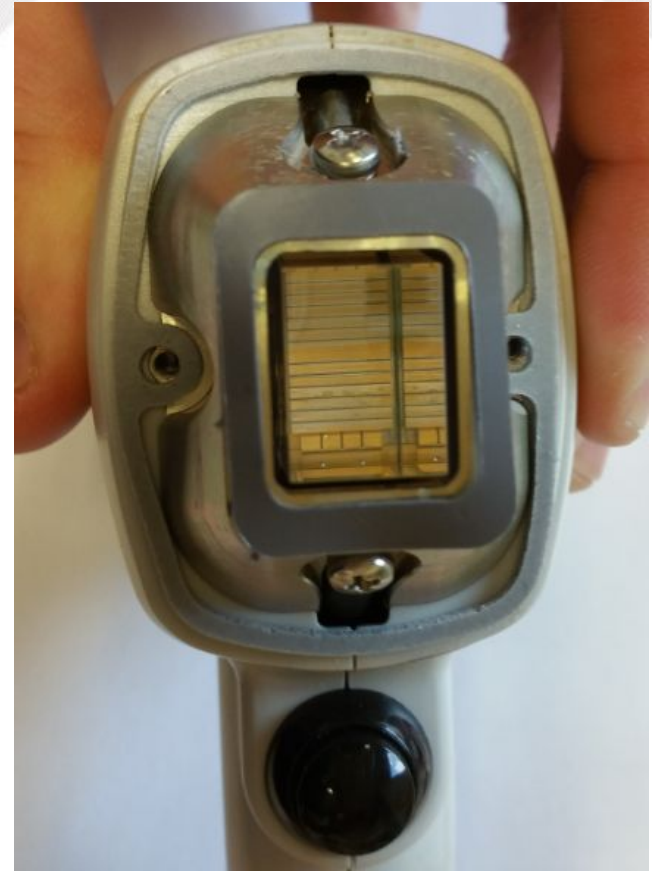
# Replacing The Tip of the Handpiece

Soprano Family



Remove the mat film covering the heat conductive

Place the heat conductive in on the Handpiece



# Replacing The Tip of the Handpiece

## Soprano Family

Place the new tip and press to set the heat conductive and remove it





# Replacing The Tip of the Handpiece

## Soprano Family

Remove the glossy side film covering the heat conductive.



# Replacing The Tip of the Handpiece

## Soprano Family



Place the new tip , tighten the screws and  
place the screw covers

# Preventive Maintenance

## Soprano Family

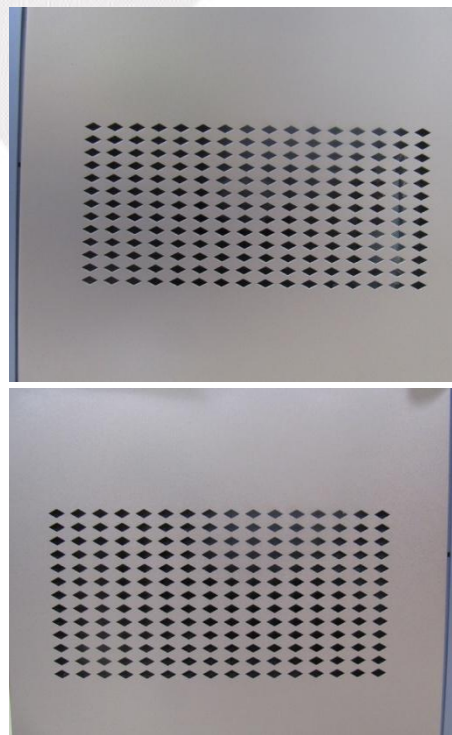
- Operator
  - Clean Filters every 3 months using vacuum cleaner
  - Add Deionized water every 3 months
  - Clean tip between treatment grids

# New Message for the Operator

## Soprano Family

Message

Filters



# Preventive Maintenance

## Soprano Family

- Technician

- Clean Particles filter every 6 months
- Replace Particles filter every 12 months
- Replace Deionizer every 12 months
- Check system integrity and handpiece energy every 12 months
- Clean dust from Fans and Heat Exchanger
- Check Handpiece Energy

## Soprano Soprano Family

- Diode Hand Pieces
  - Soprano Diode 810nm 1cm, 2cm
  - Alex diode 755nm 1.5cm
  - NIR (Body & Face)

# Soprano ICE system

Soprano Family

**The Next Generation of Virtually  
Pain Free Laser Hair Removal**



# Soprano ICE system

Soprano Family

- New Handpiece
  - Improved Cooling
  - Lighter and ergonomic Handpiece design
- New User Interface and software
- New Hardware



## New Soprano ICE system Soprano Family

- New TEC Controller that supplies 15V directly to the Handpiece
- New Facial Tip for new Handpiece
- New Alex Handpiece

## New Soprano ICE system

Soprano Family

- The Meg 50 received Voltage from the Power Supply and delivers high current to the laser diode array according to the system generation

<b>Generation</b>	<b>1G</b>	<b>2G</b>	<b>3G</b>
<b>Power Supply output</b>	<i>Few systems will be discussed per customer</i>	18VDC - 1500W	25VDC - 1500W

# Soprano ICE system

## Soprano Family



# Soprano ICE system

## Soprano Family

### Facial Tip Installation



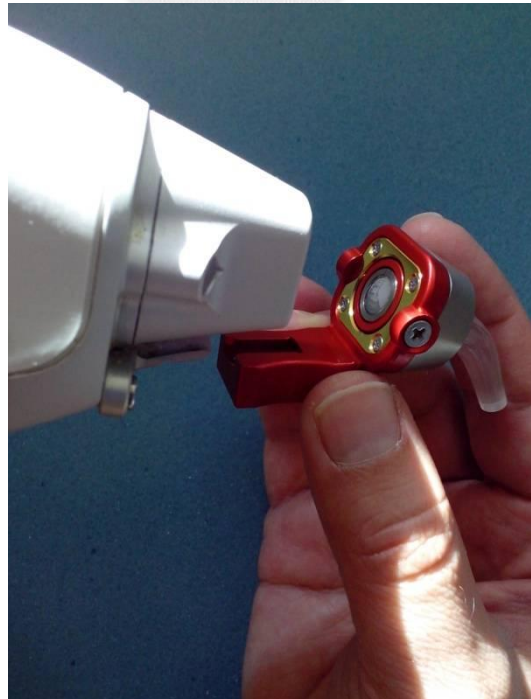
# Soprano ICE system

## Soprano Family



# Soprano ICE system

## Soprano Family



# Soprano ICE Platinum

## The Future Is Here



- The Soprano Platinum uses out of the art technology. We call it “Trio”.
- The Trio technology allows as to use 3 different Wavelength.
- This technology give even better results for the hair removal.



## Water System

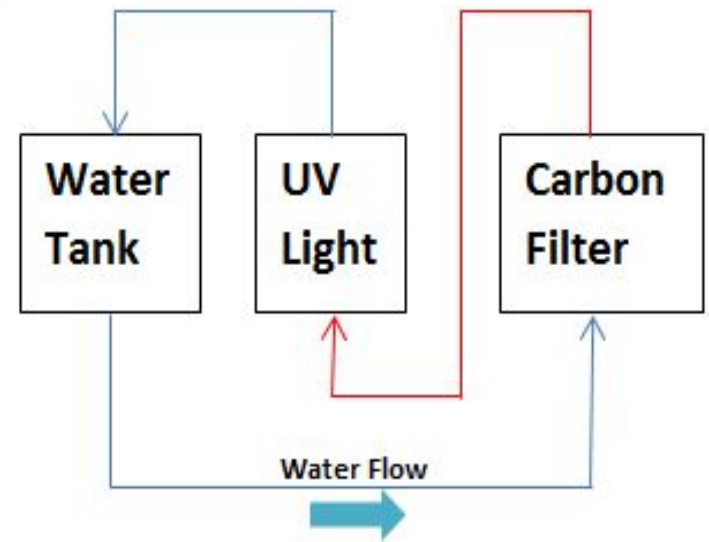
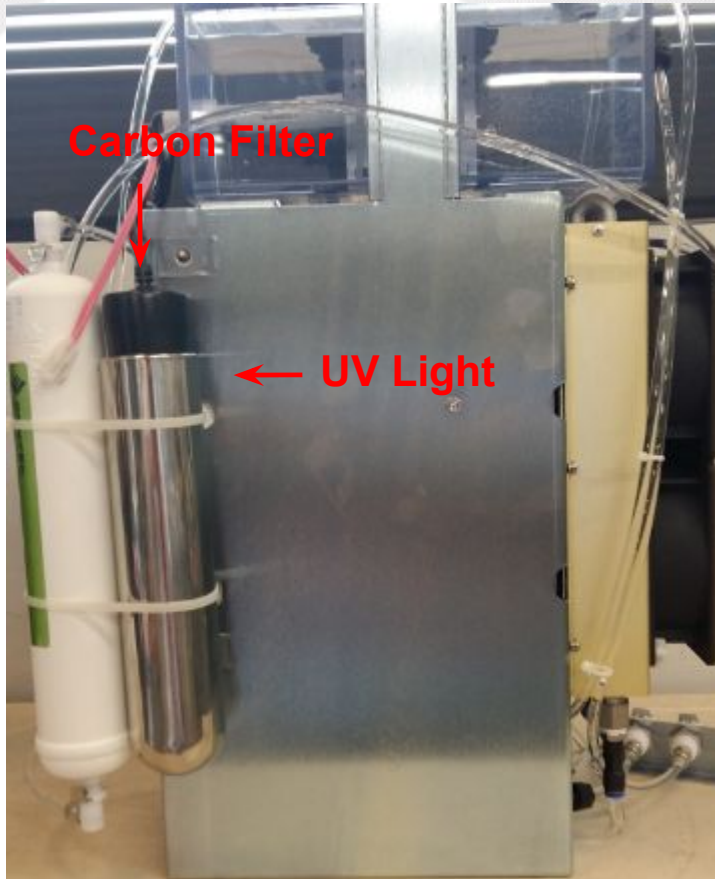
The Platinum water system is similar to the water system of the ICE.

The different in the water system is:

1. UV light
2. Carbon filter
3. Use distilled water

The new water system keeps the water quality for longer time which increasing the HP performance

**- The UV light has to be replaced every year**



## Soprano ICE Platinum



### THE POWER OF THREE

**NEW** - TRIO CLUSTERED DIODE TECHNOLOGY  
FOR LASER HAIR REMOVAL  
IN ONE APPLICATOR

- 3 Combined Wavelengths Covering the Optimal Spectrum
- Proven Safety Record • Optimal Spectrum • Virtually Painless
- All Skin Types, Even Tanned Skin



**Alex**  
755NM

For the widest  
range of hair  
types and color



**Speed**  
810NM

Half the  
treatment time



**YAG**  
1064NM

Specialized for  
darker skin types