



# ResMed Astral Series Invasive and Non-Invasive Ventilator User Guide

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## The Astral device






1. Adapter port Can be fitted with single limb adapter, single limb leak adapter or double limb adapter (Astral 150 only)

2. Handle
3. Inspiratory port (to patient)
4. Ethernet connector (service use only)
5. USB connector (for download to ResScan and connection of approved accessories)
6. Mini USB connector for  
ResMed Connectivity  
Module (RCM) or ResMed  
Connectivity Module  
Hospital (RCMH)
7. DC power inlet
8. Device on/off push button
9. SpO2 Sensor connector
10. Remote alarm five pin connector
11. Low flow oxygen input(up to 30L/min)
12. Air inlet (complete with hypoallergenic filter)

**Note:** Some accessories may not be available in all regions.

### The Astral device interface



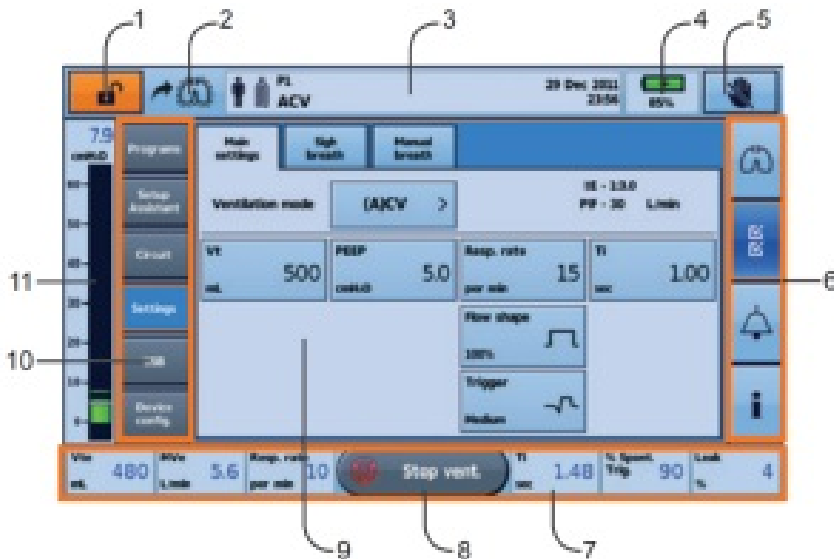
1. Touch screen
2. Power source indicators
  -  **AC** (mains power supply)
  -  **DC** (external battery, can accessory adapter or ResMed Power Station II)
  -  **Internal battery**
3. Therapy on/off indicator  
**Device ready**  
 Constant green display when the device is turned on but not ventilating.






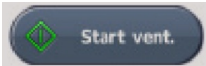
## Device ventilating

Flashes blue when the device is ventilating and the Ventilation LED setting is 'ON'. Otherwise is 'OFF'

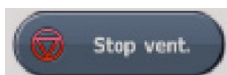
4. Alarm mute/reset button Illuminates when an alarm is triggered and flashes when the sound is muted.
5. Alarm bar

## Touch screen



1. Clinical mode access button  Locked  Unlocked
2.  Manual breath button only shown if enabled
3. Information bar
4.  Internal battery indicator
5.  Lock touch screen button
6. Menu bar
7. Bottom bar
8.  Start vent.

### Start ventilation button



### Stop ventilation button

9. Main screen
10. Sub menus
11. Pressure bar




## Patient circuits

The Astral device supports single and double limb circuits with the use of interchangeable circuit adapters.

Breathing circuits may be of 10, 15 or 22 mm diameter. For recommended patient circuit components and compatible accessories, refer to [www.resmed.com/astral/circuits](http://www.resmed.com/astral/circuits).

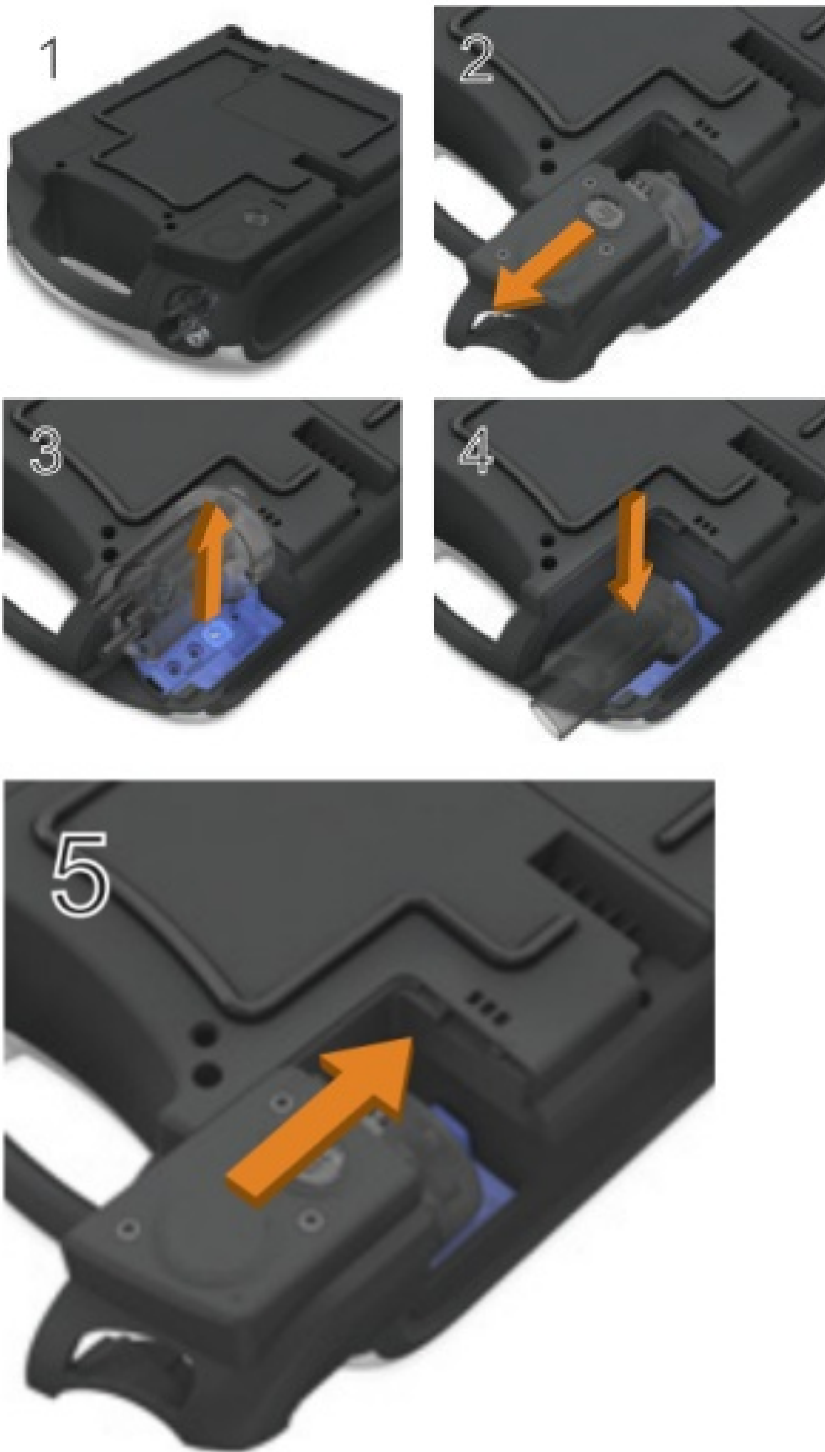
There are three circuit adapters:



Adapter	For use with
<div>1. Single limb leak</div> 	Single limb circuit with intentional leak or Mouthpiece circuit
<div>2. Single limb</div> 	Single limb circuit with expiratory valve (expiratory valve integrated into the circuit)
<div>3. Double limb (Astral 150 only)</div> 	Double limb circuit (expiratory valve integrated into the adapter) OR single limb circuit with intentional leak or Mouthpiece circuit

Fitting the circuit adapter

Before connecting the patient circuit, the adapter specific to the required circuit type must be fitted. To fit the adapter:



1. Turn over the device and place on a soft surface (to protect the LCD screen).
2. Press and hold the eject button. Pull the cover out towards you.
3. Lift the adapter out of the socket.
4. Replace with the new adapter, ensuring it sits firmly in the socket.
5. Place the cover over the enclosure, ensuring the runners on the device and the cover are aligned. Slide the cover back into place until the latch clicks.

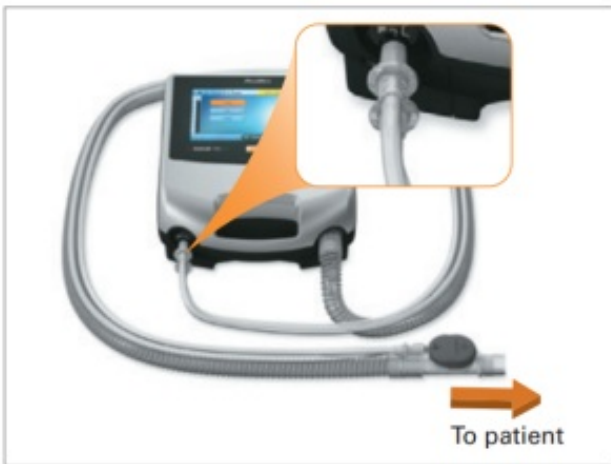
## Setting up the circuit

For complete details on setting up the circuit see Assembling patient circuits in the Astral Clinical Guide.

Single limb circuit with intentional leak or Mouthpiece circuit



Single limb circuit with expiratory valve using standard circuit



Single limb circuit with expiratory valve using ResMed proprietary circuit



Double limb circuit (Astral 150 only) or single limb circuit with intentional leak and Mouthpiece circuit



## Performing a Learn Circuit



Do not connect patient interfaces prior to performing the Learn Circuit.


1. From the Setup menu, select the Circuit sub menu.
2. Press Start and follow the on-screen prompts.

A Results screen is displayed once Learn Circuit is complete. Error codes are provided if Learn Circuit fails and can be found in the Clinical Guide for help with troubleshooting. The previous test results can be accessed by selecting the Results button in the Circuit sub menu

## Powering on the device





To power on the device, simply press the green power on/off switch  at the back of the device. The device will perform a system check.

On completion of the system check, the Patient Home screen and active program is displayed.

If more than one program displays, the active program will be highlighted orange.


**Note:** Settings configured in the active program will be used when ventilation is started.

## Accessing Clinical mode




## To access Clinical mode:

Clinical mode can be accessed from any screen, whether or not the Astral device is ventilating.

1. From the patient home screen, press and hold for  3 seconds.
2. Select 20 minutes or Unlimited. The padlock is unlocked and the Main Settings screen is displayed.

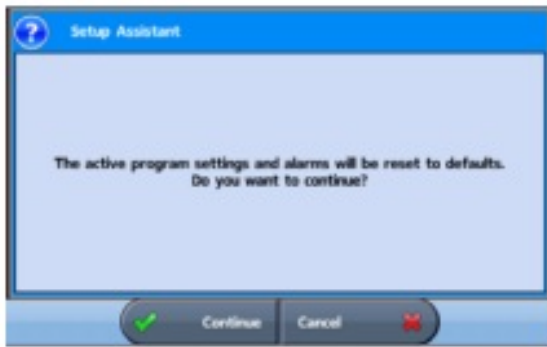
## To exit Clinical mode:

1. Press  The Exit Clinical Mode screen is displayed.
2. Press Confirm. The padlock is locked and the Patient Home screen is displayed.


**Note:** If you do not make a selection within 7 seconds, the device returns to the previous screen.

## Using the Setup Assistant



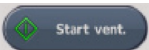


To quickly set up the Astral device and start ventilation for a new patient, use the Setup Assistant.

1. Access Clinical mode.
2. From the main menu, press .
3. Select Setup Assistant and press Start.
4. A warning message will display. Select Continue.
5. Select the patient type to automatically configure alarm and setting ranges.
6. Select the circuit type to be connected.
7. Select Start to run the Learn Circuit.
8. Follow the on-screen prompts to attach and test the circuit.
9. Select your required ventilation mode.

The default settings for the mode are displayed.

10. Review and adjust the settings as required.

11. Press  to start ventilation.

For further information on adjusting setting parameters and alarm settings, see [Adjusting patient settings](#) and [Adjusting alarm settings](#) in the Astral Clinical Guide.

## Navigating the menus

	Waveforms	Displays the last 15 seconds of patient airway pressure and flow in a graph. The graph updates in real-time.
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Monitoring

Displays all measured parameters in numerical form

Trends

Displays trending of various parameters for the last 30 days.



Program

Setup Assistant

Circuit

Settings

Main Settings  
Manual Breath  
Sigh Breath

USB

Patient Data  
Settings Upgrade

Device Configuration

Device Date / Time Units Patient access



Alarm 1 & 2

Tidal Volume (Vt) Minute Ventilation (Mv) Respiratory Rate Pressure Low PEEP Ventilation Stop Leak NV mask / Rebreathing

Alarm 3

FiO2 SpO2 Pulse

Apnoea Response

Apnoea Response Apnoea Detection

Alarm Volume

Alarm Level Alarm Minimum Volume Alarm Test

Disconnection Alarm

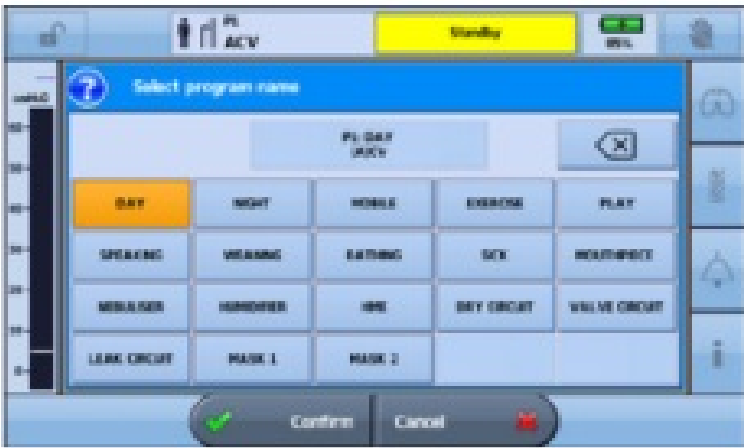
Disconnection Alarm

Events

Alarms Settings System Delete\*

<div data-bbox="124 73 204 145" data-label="Image"></div> <div data-bbox="209 73 494 248" data-label="Image"></div>	Device	Basic Advanced
	Battery	Charge Maintenance

### Enabling additional programs




The Astral device comes factory preset with one active program. Additional programs can be enabled.

1. Access Clinical mode.
2. From the Setup main menu, select Programs.
3. Enable additional programs by pressing the slider.

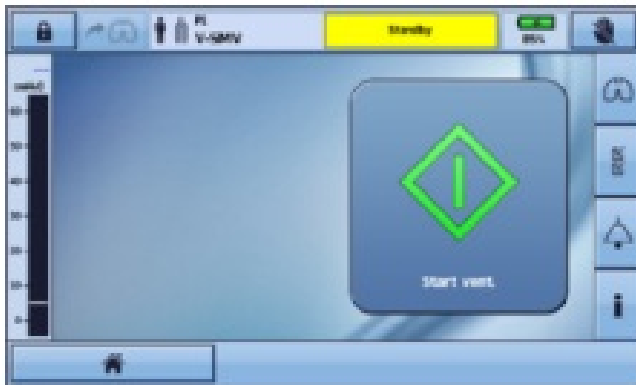
**Note:** The current active program is highlighted in orange and cannot be disabled.

4. Rename the program by pressing the Rename button. Within the Rename window, a name for the current active program can be chosen from the list provided (eg, DAY).

**Note:** A selected name can be removed by pressing the delete button .


5. When selected, the program name is displayed on the program label and on the information bar when that program is active.

## Enabling the 'Big buttons' mode



The Astral device offers an enhanced access feature ('Big buttons' mode) to provide easier usability and accessibility for starting and stopping ventilation as well as Alarm mute.

The 'Big buttons' mode can be switched on and off as required in either Clinical or Patient mode.




1. From the main menu, press .
2. Select the Patient Access tab from the Device Config. menu.
3. Move the Big buttons slider to On.

Your enhanced access feature is now enabled.

## Alarms

When an alarm is activated, the Astral device provides both audible and visual alerts, and displays an alarm message in the Alarm display on the Information bar.



Alarm priority	Alarm bar	Audible alert
High 	Red flashing light	10 beeps every 5 seconds
Medium 	Yellow flashing light	3 beeps every 15 seconds
Low 	Yellow steady	2 beeps every 25 seconds

Indicator	Description
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1. Alarm display	<p>Displays either the alarm message for the highest priority active alarm, or the last alarm not yet reset</p> <p>Press the Alarm display for further alarm information.</p> <p>Certain conditions may result in multiple alarms. <math>\Delta^+</math> indicates that there are multiple active alarms.</p> <p>Press <math>\Delta^+</math> when displayed to view all active alarms and respond appropriately. Alarms are displayed in order of priority.</p>
2. Active Alarms screen	<p>Displays the full set of active alarms. Will automatically display upon activation of an alarm in patient mode.</p>
3. Information menu	<p>Some alarms clear automatically. To view a history of alarms, view the alarm log through the Information menu.</p>
4. Alarm mute/reset button	<p>State:</p> <ul style="list-style-type: none"> <li>• no light – no active alarms</li> <li>• steady light – active alarm/s</li> <li>• flashing light – alarm mute on.</li> </ul> <p>This button also allows you to:</p> <ul style="list-style-type: none"> <li>• mute the audible alert</li> <li>• reset the currently displayed alarm (if permitted).</li> </ul>
Alarm bar	<p>Indicates the priority of the alarm in the Alarm display</p>

## Attaching a humidifier





1. Connect a length of air tubing to the inspiratory port of the device.
2. Connect the other end of the air tubing to the inlet port of the humidifier.
3. Connect the patient circuit to the outlet port on the humidifier.

### **Attaching a Heat Moisture Exchange (HME)**



An HME can be used with the Astral device with a double limb circuit or single limb circuit with integrated valve.

Place the HME between the patient end of the circuit and the patient interface.

Do not connect patient interfaces prior to performing the Learn Circuit.

### **Attaching an antibacterial filter**



1. Fit the antibacterial filter to the inspiratory port of the device.
2. Connect the air tubing to the other side of the filter.
3. Perform the Learn Circuit function.

4. Attach the patient interface to the free end of the air tubing.


For a full list of accessories, see the Ventilation accessories guide on [www.resmed.com](http://www.resmed.com). If you do not have internet access, please contact your ResMed representative.

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## Documents / Resources

 <p>ResMed Astral series Quick start guide</p>	<p><a href="#">ResMed Astral Series Invasive and Non-Invasive Ventilator</a> [pdf] User Guide Astral Series, Invasive and Non-Invasive Ventilator</p>
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## References

- [R Sleep apnea and COPD - learn about symptoms and treatment | ResMed](#)
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- [R CE0123 - black horizontal](#)