

# Application News



# How to use the AUTO functionality on Vivid S5/6



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### NOTE

This hand out is additional training material.  
For more information please refer to the user manual and/or reference manual.



# How to use the AUTO functionality on Vivid S5/6

Words marked in red are Hard keys on the Control Panel



1: Soft menu 4 - way Rocker

## General information AUTO functionality

While in 2D it activates ATO (Automatic Tissue Optimization) or  
CTO (Continues Tissue Optimization) or  
CTO + ATO  
CTO available with BT 11 Software or higher versions

While in CW or PW Doppler it activates ASO (Automatic Spectrum Optimization)

## Automatic Spectrum Optimization (ASO)

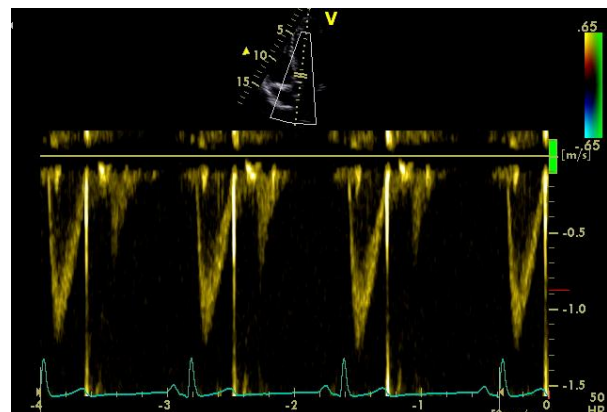
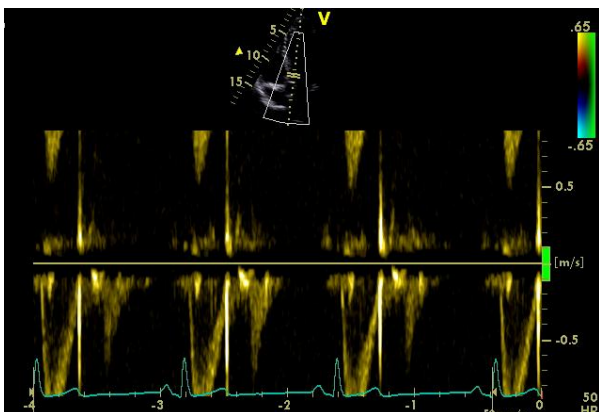
ASO is used to automatically adjust Baseline and Scale of current PW/CW spectrum to optimize the spectral display. It will avoid the display of a folded spectrum and stretch the spectrum vertically as large as possible.

### Important Notice Configuration

It is **mandatory**, that the **Baseline** and **Scale** is on the **default factory setting**. If any changes are done in the Preset, the ASO function will not work properly.

During PW and CW Doppler press the **Auto** button on the Control panel.

**ASO is not continuous performed, but each time the Auto button is pressed.**



ASO on

Depending on the flow direction and velocities, e.g. AV Stenosis + AV Regurgitation, you may have to press the **Auto** button **several** times, to give the Software the possibility to make the proper changes in both directions.

**Step 1: Flow below the Baseline**

**Step 2: Flow above the Baseline**

**Step 3: Adjust the Scale to show maximum flow in both directions**

## Automatic 2D image optimizations

### Important Notice Configuration

Please check first the Configuration of the **Auto** button for the 2D image.

3 available **optimizations** in 2D live: **ATO**, **CTO** or **CTO+ATO** can be selected by the Soft menu.

1. Press any part of the **4 way Rocker (1)** to display the Soft menu
2. Press towards the vertical directions to navigate up or down
3. Press towards the horizontal direction to adjust the setting



Functions are:

- **ATO: CTO disabled**, pushing the **AUTO** key activates/deactivates **ATO**
- **CTO: ATO disabled**, pushing the **AUTO** key activates/deactivates **CTO**
- **CTO+ATO: CTO on by default**, pushing the **AUTO** key activates/deactivates **ATO**

2D Live	2D Live	2D Live
Tissue Opt <b>ATO</b>	Tissue Opt <b>CTO</b>	Tissue Opt <b>CTO+ATO</b>
SmartDepth on	SmartDepth on	CTO Gain 100
Dynamic Range 6	Dynamic Range 6	SmartDepth on
Adaptive Reject 0	Adaptive Reject 0	Dynamic Range 6
DDP 1.4	DDP 1.4	DDP 1.4
UD Clarity C2N	UD Clarity C2N	UD Clarity C2N
Contour 0.1	Contour 0.1	Contour 0.1
Diff High	Diff High	Diff High
Power 9	Power 0	Power 0

Soft menu selection can be stored with the preset.

### How to store Presets:

Push **Probe** at the Control panel, **Set**, scroll down with the Trackball to the field Presets, **Set**, enter a Name for the Preset and confirm with Save by pressing **Set**.

## Automatic Tissue Optimization (ATO)

ATO provides an automatic optimization of the 2D image by improving the contrast resolution. ATO optimizes the 2D image when the **Auto** button is pushed. This setting remains until the **Auto** button is pushed again. ATO is now turned off; to activate ATO, press the **Auto** button.

Other Image quality optimization remains available, such as 2D Gain, TGC, Frequency etc.

### Important Notice

**ATO is available with all Imaging Probes in:**

- 2D Live scan mode
- Freeze
- Image recall mode



**It is recommended to deactivate and activate ATO when changing the scan plane.**

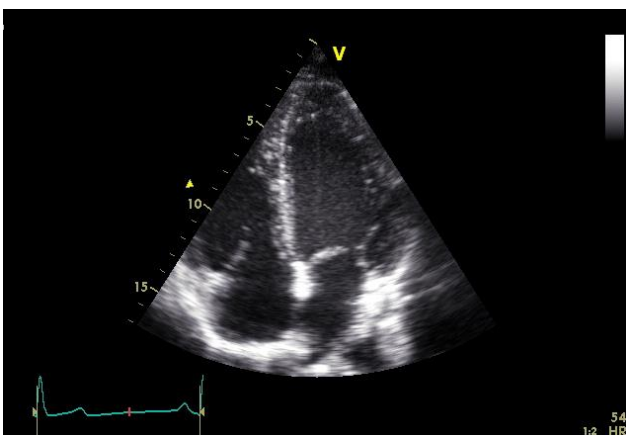
While scanning on different positions during examinations or on different organs, please deactivate ATO and activate it again on the new scanning position. The system will provide an automatic optimization of the current Region of Interest.

ATO can be turned on and off by pressing the **Auto** button. To check the status find the ATO sign on the monitor.

ATO is an on / off function.

ATO is displayed in the information window

Freq. ATO 1.7/3.4 MHz



## Continues Tissue Optimization (CTO)

CTO continuously adjusts the Gain to achieve a uniform brightness across the entire 2D image in 2D live scan mode. Continues optimization: gain adjustment every 200ms, while it is active.

Other Image quality optimization remains available, such as 2D Gain, TGC, Frequency etc.

### Important Notice

**CTO is available with all Imaging Probes in  
- 2 D live scan mode**

2D Live	
Tissue Opt	CTO
SmartDepth	on
Dynamic Range	6
Adaptive Reject	0
DDP	1.4
UD Clarity	C2H
Contour	0.1
Diff	High
Power	0

Push the **Auto** button and CTO is activated. To deactivate CTO press the **Auto** button once more. To check the status find the CTO sign on the monitor.

**Continues optimization: gain adjustment every 200ms**

CTO is displayed at the top of the Grey scale bar



When CTO is activated, you'll now have the Possibility to decide about the gain level of CTO by changing the Gain with the **4 way Rocker (1)** on the Control panel.

2D Live	
Tissue Opt	CTO
CTO Gain	100
SmartDepth	on
Dynamic Range	6
DDP	1.4
UD Clarity	C2H
Contour	0.1
Diff	High
Power	0

Soft menu selection can be stored with the preset.



## CTO + ATO

CTO (Continues Tissue Optimization) +  
ATO (Automatic Tissue Optimization)

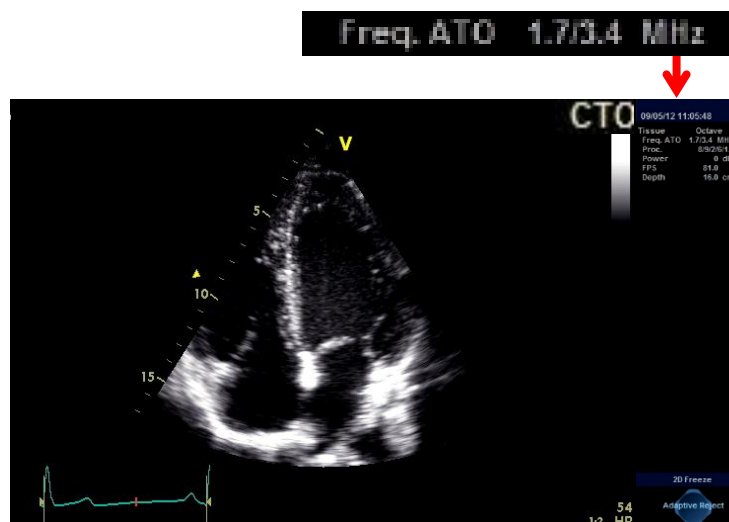
2D Live	
Tissue Opt	CTO+ATO
CTO Gain	100
SmartDepth	on
Dynamic Range	6
DDP	1.4
UD Clarity	C2N
Contour	0.1
Diff	High
Power	0

If CTO + ATO were stored in the Preset, CTO is automatically on by default during live scanning in 2D. **Continues optimization: gain change every 200ms**

By pressing the **Auto** button, the Automatic Tissue Optimization (ATO) can be activated in addition to CTO.

ATO can be turned on and off by pressing the **Auto** button. To check the status find the ATO sign on the monitor.

**Remember CTO keeps turned on, all the time.**



**It is recommended to deactivate and activate ATO when changing the scan plane.**