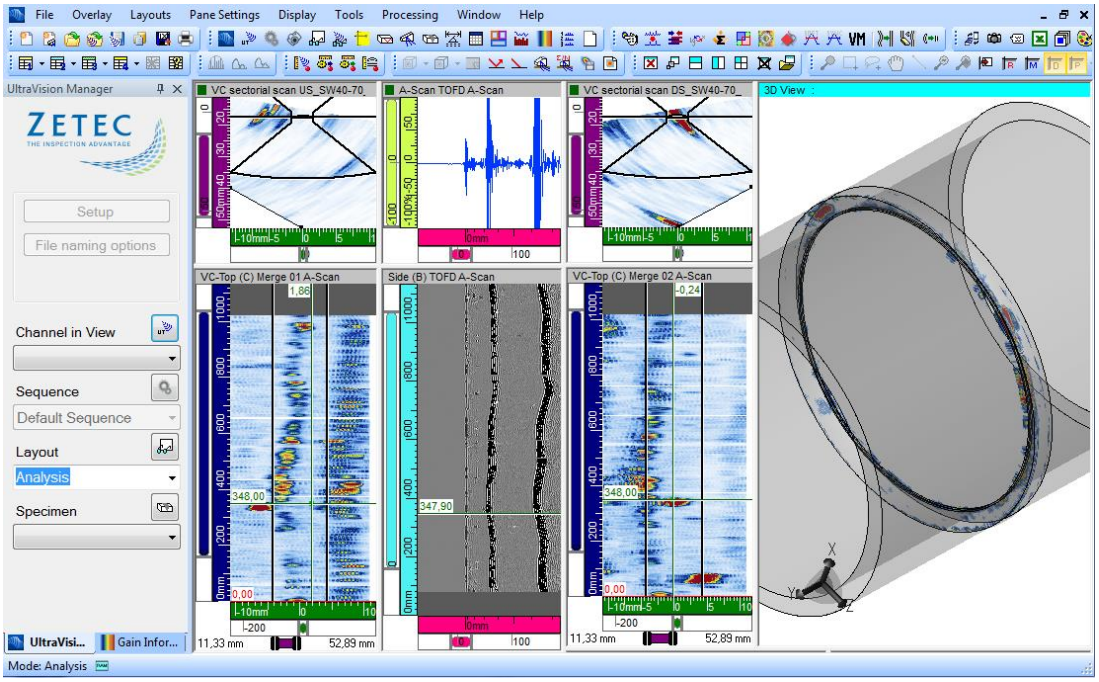
ULTRAVISION 3.8R16

Technical Guidelines



UltraVision, a complete UT and Phased Array inspection package!

Table of Contents

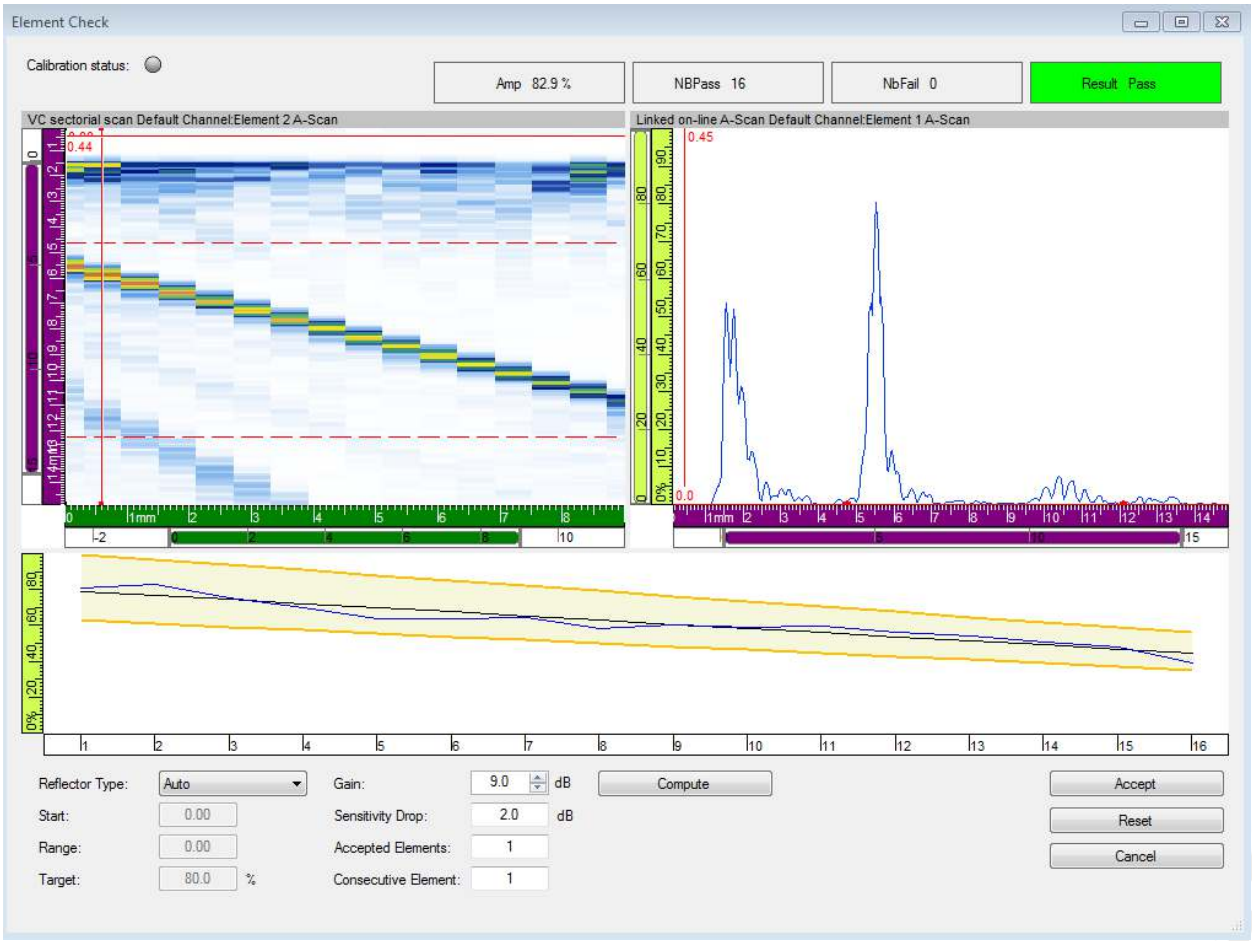
1 Calibration Tool – New Element Check 3
2 SNR Evaluation 4
3 Palette Min/Max Colors 7

1 Calibration Tool – New Element Check

The previous **Element Check** function required the user to import multiple parameters increasing the complexity. In order to simplify the process, a new **Element Check** tool similar to that found in UV Touch is now available for Ultravision 3.8R16.

To perform the new **Element Check** calibration:

1. Open **Element Check** and touch **Calibration** → **Element Check**



2. Select the **Reflector Type**:
    a. **Auto**: Use the currently defined wedge as a reflector
    b. **Depth**: Manually define the reflector to be used
3. Adjust the **Gain** so no element is saturated. Saturated elements are considered as a Fail.
4. Set the **Pass** criterion:
    a. **Sensitivity Drop**: Maximum amplitude change accepted between two consecutive elements

b. **Accepted Elements**: Maximum number of Fail elements accepted for an overall Pass status. The elements can be consecutive or not.
c. **Consecutive Elements**: Maximum number of consecutive Fail elements accepted for an overall Pass status.

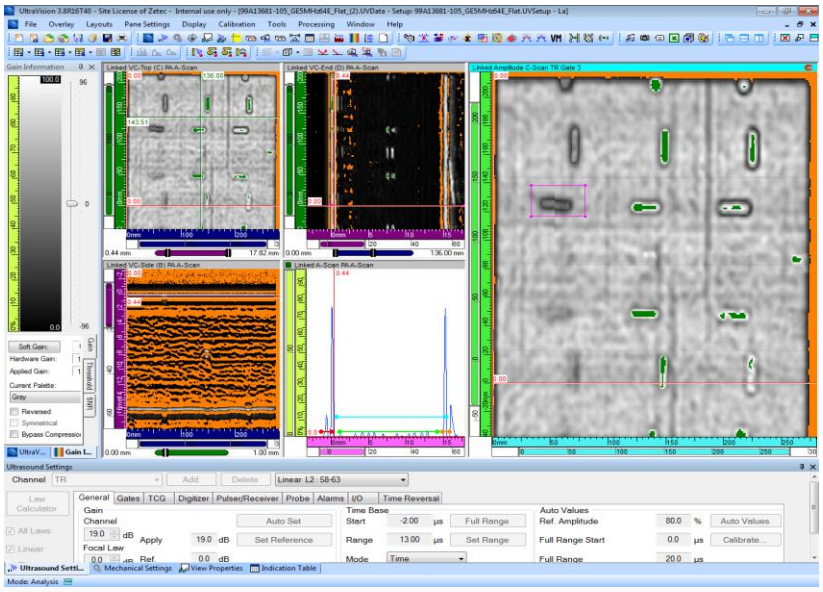
5. If Result is **Pass**, touch **Compute** then **Accept**.
6. The Calibration is now complete.
   Note: Upon returning to the **Element Check** window, **Calibration Status** LED button is now green.

2 SNR Evaluation

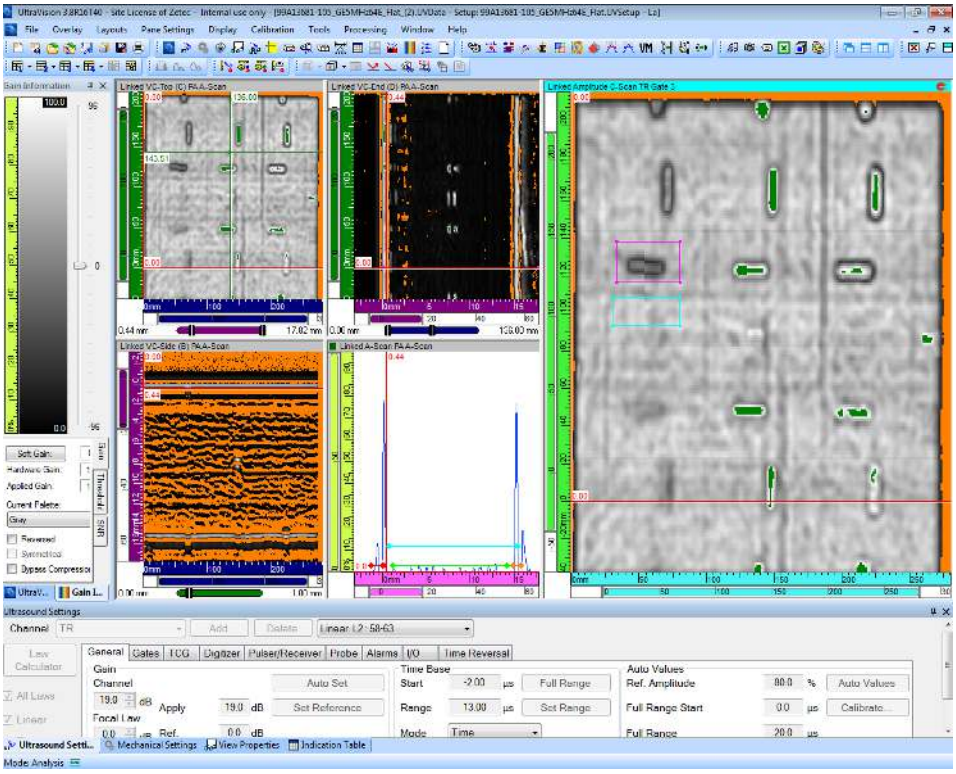
To conform to code BAC5980 and facilitate SNR analysis, Ultravision 3.8R16 adds a new SNR Evaluation Interface. An SNR tab is available in the **Gain Information** interface to allow easy computation and visualization of the SNR Factor (K) and the corresponding boundaries.

The SNR evaluation tool is available on both position and amplitude C-Scan views, and uses the **Indication** and **Noise Contour** boxes. To use the tool:

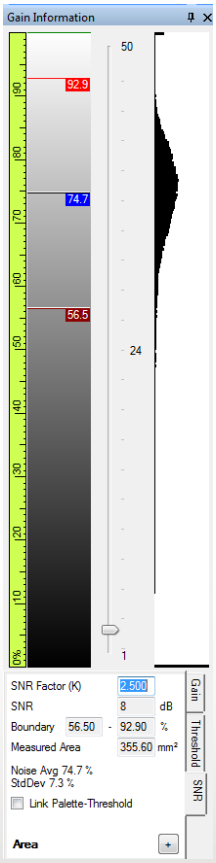
1. Display a C-Scan view using the **Contents** window (Shift+Enter).
2. Draw an **Indication Contour** (Crtl+Click Drag) around a known indication as shown:



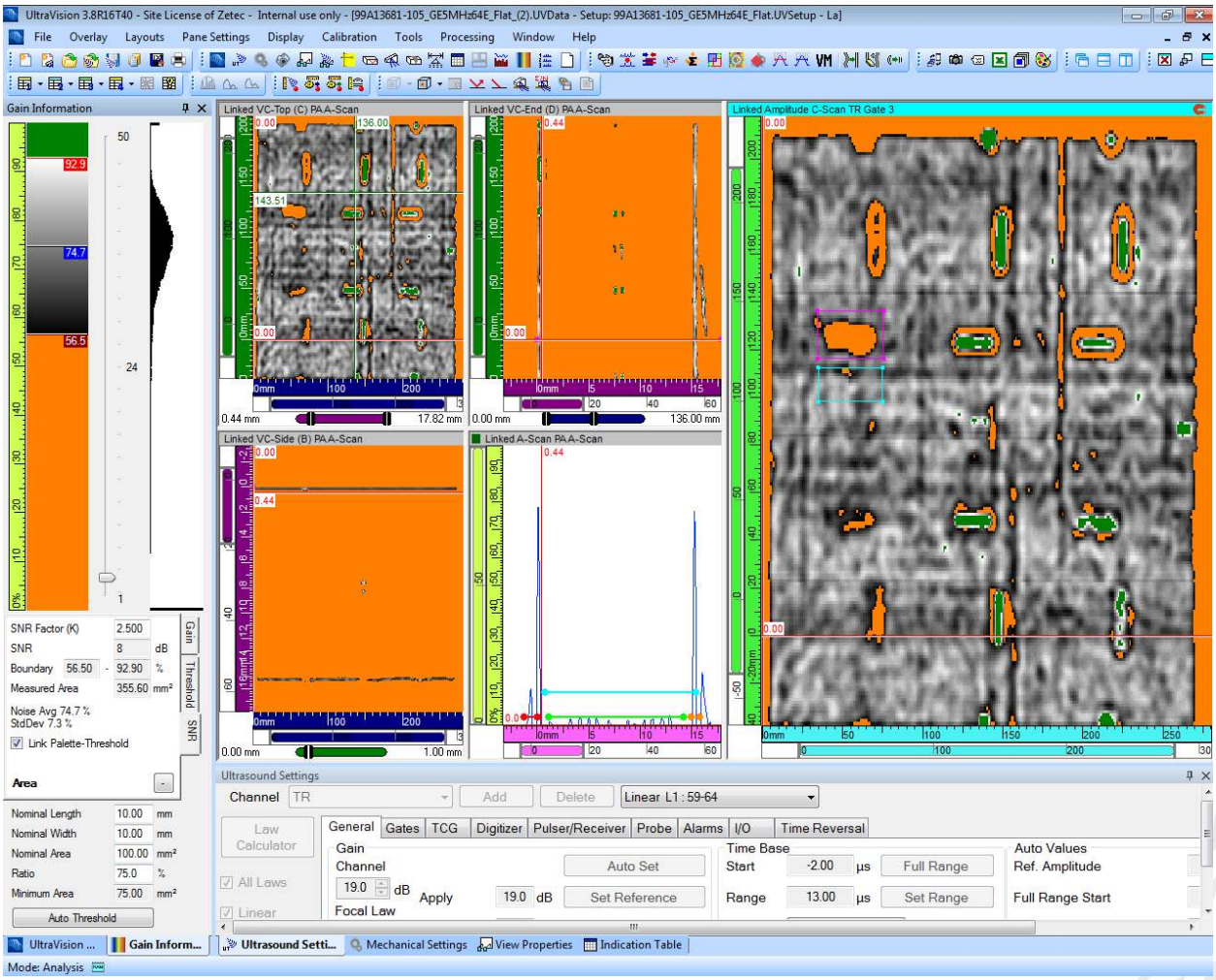
3. Draw a **Noise Contour** (Crtl+Shift+Click Drag) on an indication-free zone, with an area similar to that of the **Indication Contour**.



4. In the **Gain Information** interface, open the **SNR** tab



5. Expand the **Area** section and complete the following fields:
    a. **Nominal Length**: Known Length of the indication with the Indication Contour
    b. **Nominal Width:** Known Width of the indication with the Indication Contour
    c. **Ratio:** Percentage of the indication that is required to be over the SNR
6. Click **Auto Threshold**: The SNR Factor is then calculated to obtain a **Measured Area** as close as possible to the **Minimum Area**. The **Measured Area** is the sum of the area below the lower boundary and the area above the upper boundary.
7. Link the **Palette-Threshold** to the boundaries to display everything above and below the required SNR as shown:

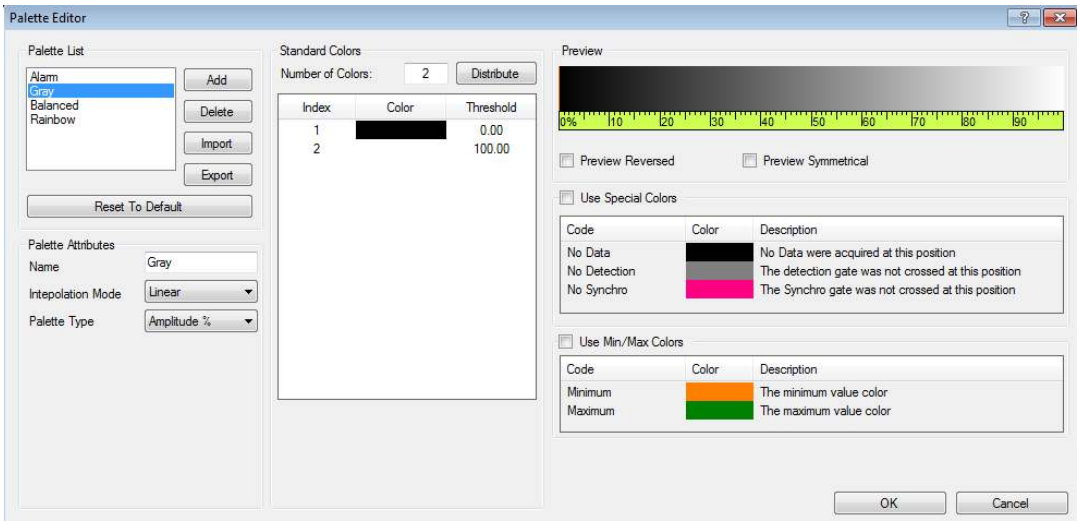


3 Palette Min/Max Colors

Distinctive colors for maximum and minimum values of the palette are a convenient feature for analysis purposes. Ultravision 3.8R16 introduces the **Use Min/Max Colors** option.

To use **Use Min/Max Colors**:

1. From the **Tools** menu, open the **Palette Editor**:



2. From **Palette List**, select the palette that will use the Min/Max Colors.
3. Check the **Use Min/Max Colors** checkbox.
4. To change the colors, click once on a color text box, then click the ... icon
5. Click **OK** to accept the change.
6. Go to the **Gain Information** interface, and choose the desired palette from the **Gain** tab.