



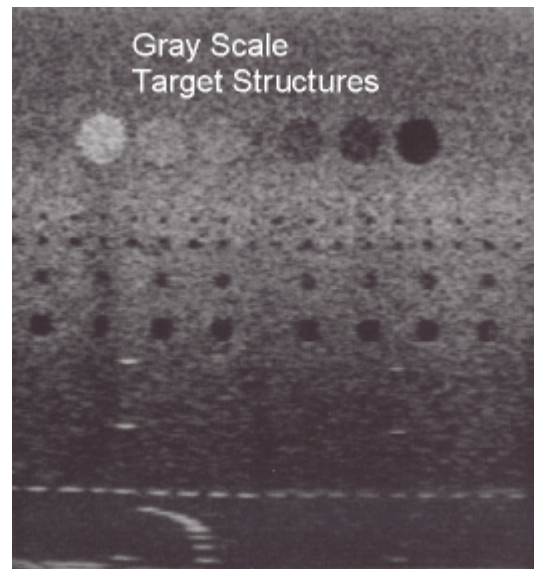
## Gray Scale & Dynamic Range

### Description and Reason For Testing

Gray scale or gray scale processing uses the amplitude of the echoes received to vary the degree of brightness of the displayed image. The adjustment of the echo signal required to go from a just noticeable (lowest gray scale level) echo to the maximum echo brightness is referred to as the displayed dynamic range. Clinically, gray scale processing and displayed dynamic range allow echoes of varying degrees of amplitude to be displayed in the same image.

### Testing Procedure

1. Position the transducer over the gray scale target group until a clear image is obtained.
2. Freeze image and obtain a hard copy.
3. Examine the image. The targets should appear circular in shape, with clear sharp edges and vary in the degree of brightness ranging from low to high levels of contrast. The presence or absence of any shadowing behind the structures should be noted.
4. All findings should be documented on the quality assurance record.



### Results

This target group varies in echogenicity and provides a good indication of the performance of the gray scale processing and displayed dynamic range. The system's gray scale processing should remain consistent from week to week when using the same instrument settings and Model 539 phantom. Compare the test results obtained from the baseline records. If the current image demonstrates changes in the system's ability to resolve these targets, corrective action should be considered.