```java
public class Bitonic {
  Bitonic[] half; // two half-width bitonic networks
  Merger merger;  // final merger layer
  final int width; // network width
  public Bitonic(int myWidth) {
    width = myWidth;
    merger = new Merger(width);
    if (width > 2) {
      half = new Bitonic[]{new Bitonic(width/2), new Bitonic(width/2)};
    }
  }
  public int traverse(int input) {
    int output = 0;
    int subnet = input / (width / 2);
    if (width > 2) {
      output = half[subnet].traverse(input - subnet * (width / 2));
    }
    return merger.traverse(output + subnet * (width / 2));
  }
}
```

FIGURE 12.16 The Bitonic class.