

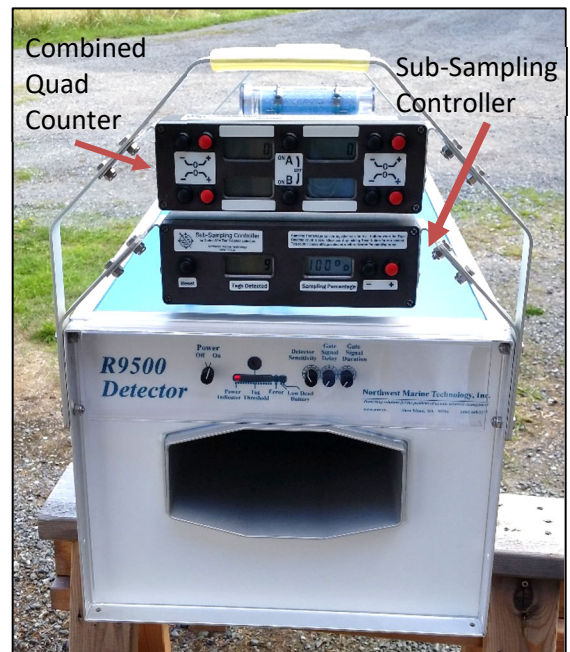
## SUB-SAMPLING CONTROLLER

### For use with an R-Series Detector, Gate, and Counter

Tunnel Detectors are used for sorting fish with and without Coded Wire Tags at centralized fish collection locations such as hatcheries and processing plants. The Sub-Sampling Controller is connected between an R-series Detector and its Diverter Gate to divert only a pre-set fraction of the detected tags for sampling. This would be used in a situation where the number of tagged fish exceeds the number of tags that need to be recovered for analysis.

Mount the Sub-Sampling Controller on the front handle of the detector using the bolts and brackets provided. Connect a cable from the electronics connector on the rear panel of the R-Detector to the connector labelled "Electronics Connector from R-Detector" on the back of the Sub-Sampling Controller. Connect a cable from the cable labelled "Cable to R-Detector" on the Gate electronics box to the connector labelled "Electronics Cable to Gate" on the back of the Sub-Sampling Controller. Thus, the connection from the Gate to the R-

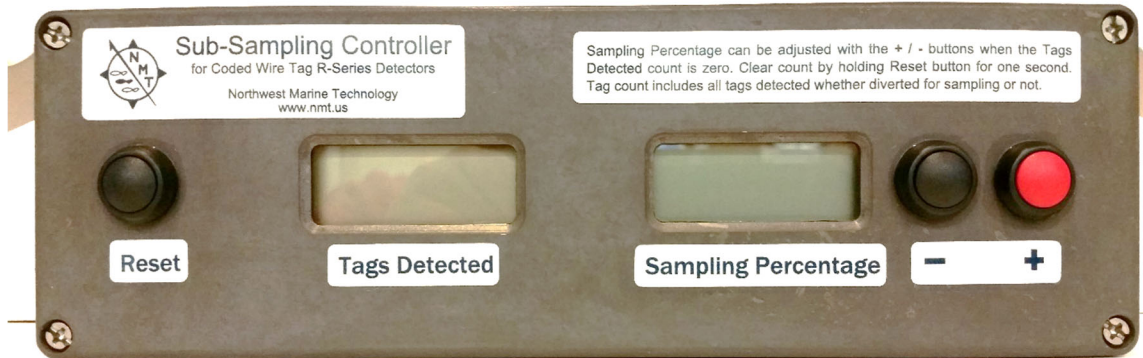
Detector is interrupted by the Sub-Sampling Controller.



## Operation

The front panel of the Sub-Sampling Controller is shown below. The + and – buttons adjust the sampling percentage, which is shown on the right display. The sampling percentage is the percentage of tagged fish that will be diverted.

The left display counts all tag detections, including those fish that are detected as tagged but not diverted. The Reset button clears the counter when pressed and held for at least 1 second.



Clear the counter before changing the sampling percentage. If the buttons are pressed when the counter does not read zero, the right-hand display changes to the error message “Clear”. Clear the counter and then resume changing the percentage.

After the counter is reset, the next detection triggers the gate. Subsequent detections do or do not trigger the gate in a sequence that is chosen to be as uniform as possible, while diverting a number of fish from each hundred detections that is equal to the preset percentage. For example, for the 75% sampling percentage shown above, three detections out

of every four trigger the gate. If the sampling percentage were set to 72%, there would be three gate operations most of the time, but in two groups of four, the gate would trigger only twice. These two special intervals would be spaced about 50 detections apart.

The unit derives its power from the gate and its display will go blank if that power is interrupted, but no information will be lost. When power is next restored, the displays will show the numbers that were present before the interruption.

## Related Documentation

The R-Series Instruction Manual is available on our website [www.nmt.us](http://www.nmt.us) and contains detailed information about using these detectors.

## Contacting NMT

We can be reached at:  
Phone: +1-360-764-8850  
Email: [office@nmt.us](mailto:office@nmt.us)  
[www.nmt.us](http://www.nmt.us)