

Model 3731D **REMOTS**[®] Digital Sediment Profiling Camera



Lighweight System with Ultra Compact Frame

The REMOTS Digital SPC was originally designed in 1984 in cooperation with Drs. Joseph Germano and Donald Rhoads, who also invented the scientific techniques for analyzing the resulting images.

Updated to use a 10.2 Mpixel digital camera as a sensor the REMOTS Digital SPC eliminates the need to process film either on-site or in-the-laboratory while retaining the proven instrument characteristics that have resulted in successful deployments around the world that have yielded tens of thousands of images.

The Ocean Imaging Systems model 3731-D REMOTS[®] (Remote Ecological Monitoring of the Sea Floor) Digital Sediment Profiling Camera (SPC) provides *in situ* imaging of organism-sediment relationships on the sea floor.

Differing from conventional undersea photo equipment, the SPC obtains a vertical cross-section of the sediment/water interface by imaging the sediment in profile. Its optical system is not affected by local water conditions since the optical path is through air and distilled water. High-resolution images of an area as large as 320 cm² of sediment profile are taken with each exposure.



Full REMOTS System with Optional Plan View Camera Attached.



The oxygenated surface layer in this sediment profile image from a dredged material disposal site in Long Island Sound shows the effects of active recolonization of the disposed sediment by infauna; note the light-gray, sub-surface consolidated clay clump to the right, typical of the heterogeneous sedimentary fabric of disposed dredged material.

The REMOTS Digital SPC can be utilized to measure a wide variety of features, including:

- Grain size
- Small-scale surface boundary roughness
- Dredged material thickness
- Depth of the apparent redox potential discontinuity (RPD)
- Subsurface methane gas pockets

It has been used to detect changes in the benthos related to thermal plume discharge and has mapped methanogenic sediments as well as anaerobic regions of the sea floor.

The combination of side-scan sonar and the Sediment Profiling Camera has proven effective as a rapid reconnaissance surveying technique when a client requires detailed information about large-scale topographic features.

Photos courtesy of Germano & Associates.

Specifications:

Camera CCD:

10.2Mpixel CCD array (3872 by 2592 pixels), 12-bit RGB color

Optics:

35 mm Nikkor lens, (52.5 mm in 35 mm film equivalence), f/2 lens

Viewing Area:

21.6 x 15.2 cm (8.5 x 6 in)

Storage:

2 Gbyte SD Card, stores approximately 300 high-resolution images at fine compression

Depth Rating:

1000 m (3250 ft), 4000 m (13,000 ft) optional

Materials:

Standard: All stainless steel, except for lower frame which is galvanized steel with fiberglass mud doors

Optional: Aluminum housing, prism & frame

Flash Power:

6 watt-seconds

Height:

168 cm (66 in) with prism up

Length:

91 cm (36 in); 159 cm (62.5 in) with bottom frame

Weight in Air (stainless steel version):

236 kg (520 lbs) plus full weight set of 113 kg (250 lbs)

Width:

66 cm (26 in); 142 cm (56 in) with bottom frame

Power:

Internal 12-volt rechargeable Ni-Cad battery, 3.0 amp-hours.

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