

# Diver Mounted Display

with Gemini multibeam imaging sonar

DMD - T Tethered version (100m tether standard)

DMD - U Untethered version



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## Main features

Ideal for zero visibility environments

Gemini Multibeam imaging sonar

Compact, lightweight and portable

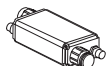
Tethered and Untethered options

Durable and robust design

All DMD systems comprise  
of 4 key elements:



Monocle display



Subsea computer



Multibeam imaging sonar



System and control

Power and control of the DMD system can either be through a tether connection to the surface, where the topside operator controls what the diver sees, or the diver can work autonomously with no need for a surface connection by utilising a diver battery pack and DMD hand controller.

The DMD system has been designed to provide divers with the ability to navigate and carry out inspections in zero visibility conditions.



Utilising the Gemini range of Multibeam imaging sonars allows the user to select the most suitable sonar for the type of operation required. The world's smallest Multibeam imaging sonar, the MicronGemini provides a basic navigation capability, allowing a diver to locate large structures or objects while working

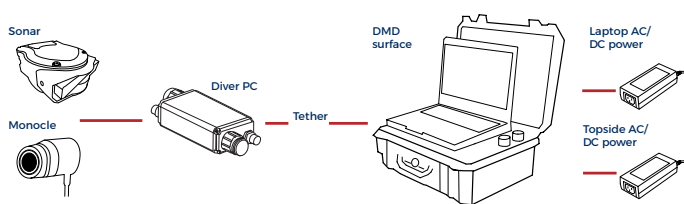
in zero visibility water.

Where a higher degree of resolution is required the diver can opt for the Gemini 720ik or Gemini 1200ik Multibeam imaging sonar, both of which provide increased range, resolution and field of view. These high specification Multibeam imaging sonars provide a diver with a high degree of confidence while working in zero visibility conditions and allow searches to be undertaken far more efficiently than using conventional search pattern techniques.

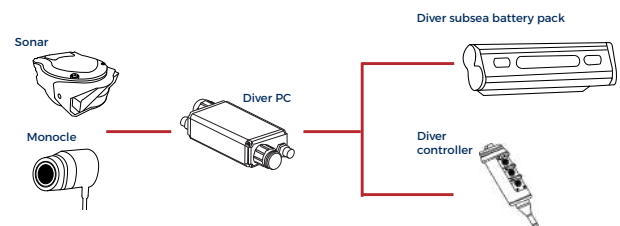
The DMD systems have been designed to be used with the Inodive accessory rail system, allowing for the DMD system to be used with an extensive range of dive masks and helmets. All of the Gemini sonars, when supplied with a DMD system, are built-up with an Inodive interface to allow for seamless installation onto the dive mask/helmet.







The **tethered system (DMD-T)** is intended primarily for surface air dive systems where the supplied tether connects the diver to the surface and control of the sonar is undertaken by the support team. The same DMD-T system can be used by scuba divers, where it's acceptable to be attached to the surface by the tether.

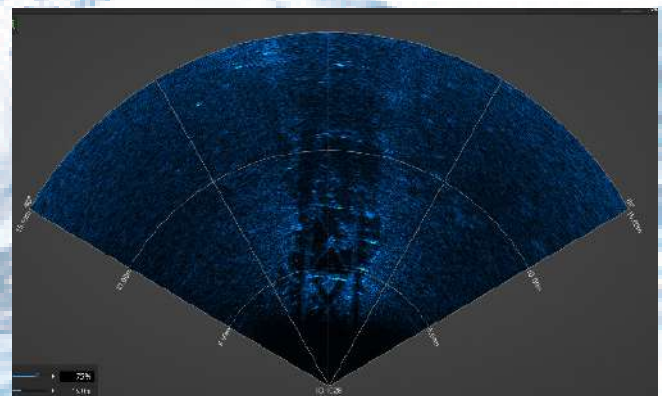
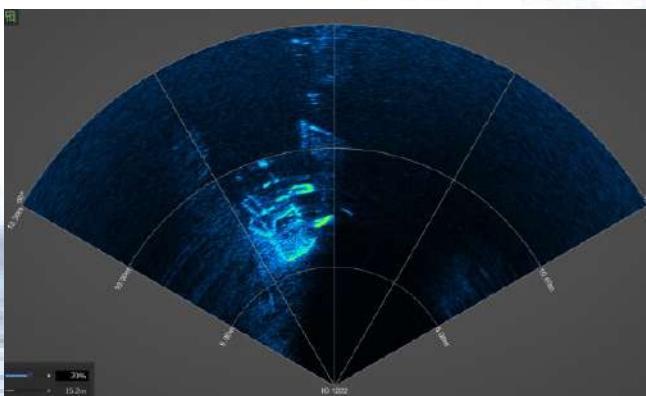


The **untethered system (DMD-U)** allows the diver to operate totally independent of a surface connection, with the diver themselves taking control of the sonar operation. This is of particular benefit where a diver wishes to operate in a covert fashion or where there may be hazards that the tether could be snagged.

By using the DMD system, a diver has the ability to view the sonar image on the diver mounted monocular, allowing the diver to quickly and efficiently locate targets of interest. The DMD-U system allows the diver to adjust settings using a custom hand controller and record data of interest on the subsea computer, while the DMD-T system allows the support diver on the surface to make any necessary adjustments to the sonar settings and highlight any targets of interest for the diver to investigate.

The Inodive rail system simplifies the fitting and removal of the DMD system. This allows the sonar to be removed from the mask/helmet and attached to a Gemini sonar pistol grip where this may at times offer some advantage, such as difficult to reach areas or where a different sonar viewing angle may be beneficial.

The innovative Monocular design allows for it to be accurately positioned on the divers helmet/mask and yet it can also easily be lifted out of the divers view and later replaced back into the same position by the diver when it's required.



Gemini sonar model*1	MicronGemini	Gemini 720ik	Gemini 1200ik	
Operating frequency	720 kHz	720 kHz	720 kHz	1200 kHz
Maximum range	50m / 164 ft	120 m / 393 ft	120 m / 393 ft	50 m / 164 ft
Horizontal field of view	90°	120°	120°	120°
Range resolution	8 mm / 0.31 in	8 mm / 0.31 in	4 mm / 0.16 in	2.4 mm / 0.09 in

Monocle specification	
Power requirement	0.5 W
Depth rating	100 m / 328 ft
Display input	RGB, HSYNC, VSYNC
Display resolution	SVGA (800 X 600)
Connector	SubConn Micro Circular series
Weight in water	0.09 kg / 0.2 lbs

Subsea computer	
Power requirement *2	10 W @ 20 - 42 Vdc
Depth rating	100 m / 328 ft
Connectors	SubConn Micro Circular series
Weight in water	0.54 kg / 1.2 lbs

Surface Control Unit (SCU) (only used with DMD-T)	SCU Rugged Case	Laptop - Toughbook 55
Power	Internal rechargeable power	Internal rechargeable battery
Duration of operation	Approx 3 - 4 hrs	Up to 19 hrs
IP rating	Weatherproof	IP53
Battery chemistry	Li-ion	Li-ion
Weight in air	8 kg / 18 lbs (plus laptop)	2 kg / 4.4 lbs

Tether (only used with DMD-T)	
Cable length	100 m / 328 ft
Connectors	SubConn Micro Circular series
Weight in water (Fresh)	0.073 kg / 0.2 lbs (per meter)

Subsea battery system (only used with DMD-U)	
Power output	24 V, 10 Ah (nom)
Depth rating	250 m / 820 ft
Duration of operation	>2 hrs
Battery chemistry	NiMH
Weight in water	3.4 kg / 7.5 lbs

Subsea diver control (only used with DMD-U)	
Control type	3-button hand operated active controller utilising piezo-switches
Depth rating	100 m / 328 ft
Connector	SubConn Micro Circular series

\*1 For full sonar spec, see relevant product datasheet

\*2 Does not allow for attached accessories