

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

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

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

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	>4hrs (for a dual battery system)	Up to 19 hours
IP rating	Weatherproof	IP53
Battery chemistry	Li-ion	Li-ion
Weight in air	8kg / 18lbs (plus laptop)	2kg / 4.4lbs

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

Subsea battery system (only used with DMD-U)	
Power output	24V, 10Ah (nom)
Depth rating	250m / 820ft
Duration of operation	>5hrs
Battery chemistry	NiMH
Weight in water	3.4kg / 7.5lbs

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

<sup>\*1</sup> For full sonar spec, see relevant product datasheet  
<sup>\*2</sup> Does not allow for attached accessories

**Tritech International Limited**  
Peregrine Road, Westhill Business Park  
Westhill, Aberdeenshire AB32 6JL  
United Kingdom  
Email: sales@tritech.co.uk  
Tel: +44 (0)1224 744111



# Diver Mounted Display

with Gemini multibeam imaging sonar

DMD - T Tethered version (100m tether standard)

DMD - U Untethered version



# Diver Mounted Display with Gemini multibeam imaging sonar

## 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.

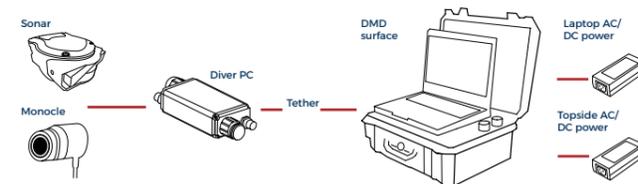


Utilising the Gemini range of Multibeam imaging sonars allows the user to select the most suitable sonar for the type of operation required. The world's smallest Multibeam imaging sonar, the Micron Gemini provides a basic navigation capability, allowing a diver to locate large structures or objects while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

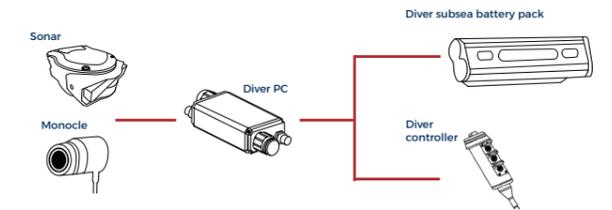
in zero visibility water.

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 monocle, 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 Monocle 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.

