

# VMS Installation and Maintenance Standard

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## Introduction

The *Fisheries Regulations 2019* require that fishers operating in the following commercial fisheries have a Victorian Fisheries Authority (VFA)- approved vessel monitoring system (VMS) device installed on their vessel:

- Abalone
- Rock lobster
- Giant crab
- Inshore trawl
- Western Port/Port Phillip Bay
- Corner Inlet
- Sea urchin
- Ocean and dive scallop (already use VMS)
- Octopus (new fishery)
- Banded morwong (new fishery)

Refer to the section of this document entitled *Approved VMS equipment and data plan suppliers* for more information on VFA-approved devices.

## Legislative basis for the implementing VMS

### Requirement to have an approved VMS unit installed

*Refer Fisheries Regulations 77, 470 and 471*

All prescribed access licence holders and their operators are required to have a VFA-approved VMS unit installed on any boat except tender vessels used under the licence before leaving a port or mooring to engage in a commercial fishing operation unless authorised by the VFA.

After the unit is installed, it must be tested to ensure it is working properly. Please contact Bill Lussier at 0428 831 593 during business hours.

### Requirement to specify and maintain method of communication

*Refer Fisheries Regulation 472*

The VFA requires that fishers have onboard the vessel a mobile phone that the VFA can call at any time that it needs to communicate with the operator when they are on the boat and acting under the licence. After the VMS unit is installed, and at least 5 business days before the boat is used for fishing after installation, the licence holder must inform the VFA in writing of that device's telephone number.

The nominated operator must make all reasonable efforts to respond in a timely manner to communications from the VFA.

When the nominated operator is engaged in dive fishing (i.e. abalone, sea urchin, scallops), they must ensure the mobile phone is monitored by a deckhand.

## VMS unit must be fully operational during fishing trip

Refer Fisheries Regulations 473(d) and (f)

The licence holder and the nominated operator must ensure that a VMS unit installed in a boat is always fully operational before undertaking a commercial fishing trip and during the trip.

## Obligations of equipment installers

VMS units designed for maritime fishing operations are robust and sealed against water and dust ingress. Points where VMS units are most likely to fail are in the electrical connections, particularly where the power and other conductors are attached to the unit. Particular care in these areas must, therefore, be undertaken during and after installation.

The VFA requires, therefore, that approved vessel tracking equipment is installed and maintained by a suitably qualified person such as a marine electrician or a technician authorised by the VMS supplier so that the risk of equipment failure is minimised. Individuals may install their own VMS devices if they possess the requisite skills and meet the requirements of this standard.

In summary, the responsibilities of the installer are to:

- install the VMS device in accordance with the *Orbcomm ST6100 Terminal Installation Guide* and any other instructions supplied with the VMS device or by the VFA;
- comply with the manufacturer's maintenance instructions for the VMS device;
- cooperate with VFA and the manufacturer/supplier to resolve technical faults or incidents;
- advise device purchasers of the VFA's requirements for installation and maintenance; and
- report instances of suspected tampering with equipment to the VFA.

## Approved VMS equipment

### VFA-approved devices

The Orbcomm ST6100 supplied by Design9 P/L is approved by the VFA for use in Victorian fisheries that require VMS (Figure 1).

All boats operating in commercial fisheries that require VMS, except for those that also operate under Australian Fisheries Management Authority (AFMA) must use this device unless authorised by the VFA.

### Commonwealth and Victorian ocean scallop fisheries

AFMA-approved devices used by Commonwealth-endorsed and Victorian ocean scallop fishers are approved for use in Victorian fisheries that require VMS provided they are installed and operated in accordance with AFMA standards.

Victorian fishers operating in these fisheries are not required to have a separate VFA device installed onboard their vessel.

More information on AFMA-approved VMS devices is available at <https://www.afma.gov.au/list-approved-vms-units-commonwealth-fisheries-changed>.



Figure 1. Orbcomm ST6100 VMS device. Photo credit: Orbcomm.

## Abalone and Port Phillip dive scallop fisheries

Fishers operating in the following fisheries use devices that have been provisionally approved by the VFA:

- abalone fishery;
- sea urchin fishery; and
- Port Phillip Bay dive scallop fishery.

Succorfish VMS devices used by the abalone fishery and sea urchin fishery are provisionally approved until reviewed by the VFA. Abalone and sea urchin fishers using Succorfish units and airtime plans are required to authorise the Succorfish company to provide real time vessel name, identifying mark, location, speed and bearing information to the VFA via the AFMA Trackwell platform.

Succorfish VMS units for which this authorisation is not provided, or do not report the required information to the AFMA Trackwell platform, are not approved for use in the abalone or sea urchin fishery.

Skywave IDP690 devices used in the Port Phillip Bay dive scallop fishery are provisionally approved and can be only be replaced from an operator's existing stock. Orbcomm ST6100 devices that replace IDP690 devices must be purchased from the VFA-approved supplier Design9 if the operator does not have spares on hand.

Table 1 lists the devices for each fishery and the approved supplier for each type.

## Installation standards and requirements

### General

The installer must observe all equipment manufacturer, relevant safety authorities and VFA requirements when installing VMS devices. Installers should observe normal best practice for installing the equipment with particular attention given to the maritime operating environment.

The installer must perform operational test procedures in accordance with supplier/manufacturer's and the VFA's requirements after installing the VMS device.

The VFA may, at its discretion, engage an independent expert to verify compliance with these standards.

VMS unit details including its unique identifying numbers (i.e. IMEI, SkyWave number) and operators' contact details must not be divulged to any party other than the VFA.

### Unit location

The VMS device must be mounted in a way that complies with the installation instructions, including that it:

- always has a clear view of the sky such that its contact with the VMS network is not impeded;

- is positioned horizontally or as deemed suitable by the manufacturer;
- is not prone to damage;
- is positioned in a way that it is secure and operational in all sea conditions;
- does not interfere with or is affected by the operation of other electrical devices such as radios, radar or motors;
- does not interfere with the normal, safe operation of the boat; and
- complies with any other locational requirements.

*Table 1. VFA-approved VMS devices and suppliers. Fishers who operate in other jurisdictions including AFMA can use the VMS devices approved in that jurisdiction and do not require a separate VFA device.*

Fishery	Succorfish	Orbcomm ST6100	IDP690	Approved supplier	Comment
<b>Abalone</b>	✓	✓		Succorfish Design9	Succorfish units are provisionally approved by the VFA until they are reviewed.
<b>Banded morwong</b>		✓		Design9	
<b>Corner Inlet</b>		✓		Design9	
<b>Dive scallop</b>		✓	✓	Design9	IDP690 units can only be replaced from the operators existing stock of spares.
<b>Giant crab</b>		✓		Design9	
<b>Inshore trawl</b>		✓		Design9	
<b>Ocean scallop</b>		✓		Design9	
<b>Octopus</b>		✓		Design9	
<b>Rock lobster</b>		✓		Design9	
<b>Sea urchin</b>	✓	✓		Design9	Succorfish units are provisionally approved by the VFA until they are reviewed.
<b>Western Port/ Port Phillip Bay</b>		✓		Design9	

## Power supply

The VMS device must be connected to a reliable external power supply such that:

- it is not subject to large fluctuations in voltage that may cause the device to turn off, reset or be damaged;
- the power supply meets the manufacturer's specification for electrical characteristics (e.g. voltage range, power consumption, ripple voltage) taking account other connected devices such as radios and radar;
- cabling is protected by ducting or other measures such that is unlikely to suffer accidental damage; and
- switching between alternate power supply systems must not cause the unit to cease functioning for more than the amount of time required to re-establish its connection with the VMS network.

## Cabling and connectors

The VMS device must be installed in accordance with the supplied instructions and any other information and be connected using cables which:

- are protected using conduit or measures such that is not exposed to damage;

- passes through an aperture of a size no greater than is required for the diameter of the cable;
- are of the highest quality, especially in relation to insulation and water proofing characteristics;
- make it impossible to remove the unit from the vessel without disconnecting the joining cable; and
- meet the manufacturer's specifications for appropriate electrical characteristics (e.g. attenuation, DC resistance).

Care should be taken where cabling traverses open areas such as the vessel deck. Use of plastic or metal conduit to prevent accidental damage and or water ingress should be considered in these circumstances.

Connectors must, where they are not sealed by the manufacturer,

- have the cable connector pins soldered to the cable;
- use dielectric grease or other compound which protects the contacts from seawater; and
- be protected where the cable connects to the device with self-amalgamating tape.

## Installing spare VMS units and transferring devices between vessels

VMS devices may be replaced with spare devices or with units taken from other vessels provided that

- the new unit remains compliant with this standard; and
- the operator notifies the VFA Commercial Licencing Unit during normal business hours and before commencing a commercial fishing trip with the new device.

This standard must be followed anytime a unit is replaced.

## Activating VMS devices

*This section does not apply to Succorfish VMS devices.*

Once power is applied to the VMS device for the first time, the terminal will go into satellite search mode and will attempt to connect to the satellite network. This activity may take several minutes to complete and once the connection is established, the VMS device will operate correctly.

It is recommended that power be maintained to the device for one to three hours after it is applied for the first time.

The installer can follow the progress of the activation process by monitoring the LED on the device (Figure 2) or on the remote LED display, if installed.



Figure 2. Position of LED on ST6100 device indicated by arrow.



## Maintenance standards and requirements

### General

The operator must ensure that any maintenance on VMS equipment is completed in accordance with the *Orbcomm ST 6100 Terminal Installation Guide* and any other instructions provided by the VFA. The VFA recognises that genuine equipment failures will occur but that the risk of occurrence is minimised if fishers and technicians adhere to the best practice for installing and maintaining the equipment.

### Vessel tracking equipment integrity

Technicians performing maintenance on boats equipped with VFA-approved units, must inspect the devices, cabling and connectors for indications of tampering. Any indications of tampering must be reported immediately to the VFA.

It is left to the discretion of the technician as to whether the equipment is maintained or replaced although the Fisheries Regulations will apply in these cases.

## Additional requirements for AFMA-approved VMS devices

The VFA requires that Victorian fishers using AFMA-approved devices use them in accordance with AFMA's requirements for these devices unless the VFA is notified in writing.

## Distress capabilities

These devices are not designed to be a safety device and are not monitored for this purpose by the VFA or by any maritime safety agency.

### Further information

#### VFA contact details

If you have any questions about the VMS system or administration including registering a VMS unit on a vessel	Commercial Licensing Unit (business hours)	03 8392 6860
If your VMS is not working and you are seeking approval to manually report during your fishing trip	Operations Duty Officer (24 hours)	0419 844 781

### Websites

- **Fisheries Act 1995 and the Fisheries Regulations 2019:** <http://www.legislation.vic.gov.au/>.
- **VFA VMS website:** <https://vfa.vic.gov.au/commercial-fishing/vessel-monitoring-systems>
- **AFMA-approved VMS devices:** <https://www.afma.gov.au/list-approved-vms-units-commonwealth-fisheries-changed>



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