

DSC
DIGITAL SELECT CALLING

USCG
RESCUE 21 SYSTEM

USCG Rescue 21

Rescue 21 is the United States Coast Guard's advanced command, control and communications system. Created to improve the ability to assist mariners in distress and save lives and property at sea, the system is currently being installed in stages across the United States.



DSC

VHF AND MF, HF RADIO,S

**VESSELS SAILING SOLAS ROUTES MANDATED IMO
RULES AND REG'S, FCC, USCG
SMALL PASSENGER VESSELS MANDATED FCC, USCG**



Built-in DSC RECEIVER ON CHANNEL 70 That Meets FCC REG,S



Built-in DSC RECEIVER ON CHANNEL 70

Built-in DSC watch function monitors Ch 70 (DSC channel) activity, even while you are on another channel. In an emergency situation, a formatted distress call can be sent at the touch of a button.

Digital Selective Calling Features

DSC uses a unique ID (MMSI code) similar to a telephone number, allowing you to make contact with a specific boater or group of boaters in your area. A total of 100 address IDs can be stored with a 5-character name.

Position Request and Position Report with External GPS Receiver

With an external GPS receiver, the position request and position report functions allow you to exchange ships position. The received position information can be plotted on a third party GPS or other navigation equipment which accepts NMEA data format. The polling (request/reply) function checks whether a specific ship is in the communication range.

About Digital Selective Calling

The U.S. Coast Guard offers VHF and MF/HF radiotelephone service to mariners as part of the [Global Maritime Distress and Safety System](#). This service, called digital selective calling (DSC), allows mariners to instantly send an automatically formatted distress alert to the Coast Guard or other rescue authority anywhere in the world. Digital selective calling also allows mariners to initiate or receive distress, urgency, safety and routine radiotelephone calls to or from any similarly equipped vessel or shore station, without requiring either party to be near a radio loudspeaker. DSC acts like the dial and bell of a telephone, allowing you to "direct dial" and "ring" other radios, or allow others to "ring" you, without having to listen to a speaker. New VHF and HF radiotelephones have DSC capability.

US Coast Guard Sea Implementation of Areas A1 (VHF)

Currently, the USCG is implementing GMDSS in Sea Area A1. One element of the USCG [National Distress and Response System Modernization Project](#), is called "Rescue 21", which updates the USCG VHF distress system to include DSC capability & direction finding capabilities.

US Coast Guard Sea Implementation of Areas A2 (MF)

Many USCG Sectors operate MF DSC on a limited basis. The US does not have any plans to declare Sea Area A2.

US Coast Guard Sea Implementation of Areas A3 &A4 (HF)

US Coast Guard DSC (HF) Equipped Shore Stations Areas A3 &A4

Station Type Remote Site MMSI

CAMSLANT Chesapeake VA MF/HF -- 003669995

COMMSTA Boston MA MF/HF Remoted to CAMSLANT 003669991

COMMSTA Miami FL MF/HF Remoted to CAMSLANT 003669997

COMMSTA Belle Chase LA MF/HF Remoted to CAMSLANT 003669998

CAMSPAC Pt Reyes CA MF/HF -- 003669990

COMMSTA Honolulu HI MF/HF Remoted to CAMSPAC 003669993

COMMSTA Kodiak AK MF/HF -- 003669899

*The stations have limited MF capability.

Interconnection to a GPS Receiver

All DSC-equipped radios, and most GPS receivers, have an NMEA 0183 two-wire data protocol. That NMEA protocol allows any model of GPS to be successfully interconnected to any model of radio, regardless of manufacture. Although NMEA has no standard for the type of cable or connector used, many if not most DSC and GPS receiver manufacturers generally use ribbon cable with no connectors. These wires are simply connected between the radio and the GPS by twisting the wires (some people solder) and tape (some people use waterproof heat shrink tubing). Note also that NMEA 0183 and IEC 61162-1 data interfaces are identical.

****The Coast Guard urges, in the strongest terms possible, that you take the time to interconnect your GPS and DSC-equipped radio. Doing so may save your life in a distress situation! Before interconnecting your radio & GPS consult the owner's manuals.**

CLASS OF RADIO

CLASS A. All DSC options provided. Required on MF/HF and VHF radios used by SOLAS-regulated ships. Class A includes polling and vessel tracking, data, and numerous other functions in addition to voice.

CLASS B. Required on VHF and MF radios used by SOLAS-regulated ships, though most such radios in fact meet Class A. Class B required capabilities include:

CLASS D. Minimum DSC capability for VHF marine radios carried by recreational boaters, commercial fishing vessels, and other non-SOLAS regulated vessels. Class D required capabilities include:

CLASS E. Minimum DSC capability for HF marine radios carried by recreational boaters, commercial fishing vessels, and other non-SOLAS regulated vessels. Class E required capabilities include:

MMSI Overview

Maritime Mobile Service Identities (MMSIs) are nine digit numbers used by maritime digital selective calling (DSC), automatic identification systems (AIS) and certain other equipment to uniquely identify a ship or a coast radio station. MMSIs are regulated and managed internationally by the [International Telecommunications Union](#) in Geneva, Switzerland, just as radio call signs are regulated. The MMSI format and use is documented in Article 19 of the ITU Radio Regulations and ITU-R [Recommendation M.585-4](#), available from the ITU.

OPERATION

1. DSC FOR EMERGENCY OR RESCUE. At the time of an emergency the dsc radio will tx a signal on channel 70 (156.525) with digital modulation (G2B).
2. The information in this message will tell the **USCG RESCUE 21** system who you are and your lat, lon. (for this to take place you must have registered your **MMSI** number for the vessel, programmed it into the radio and wired a **GPS** SIGNAL into the radio.
3. To transmit this message you can push the dsc button on the radio and select from the program what type of emergency it is, or just lift the cover over the red button and push it.
4. The radio will make some strange noises and move to channel 16.
5. Wait for the **USCG RESCUE 21** dispatcher to respond verbal to you. Follow those directions from that moment on.
6. If you do not get a response within reason the repeat process
7. Once the **USCG RESCUE 21** dispatcher has your information they will send a all ship call for any vessel in your area. This call will wake up all radio's in your area and sound a alarm in the radio. These radio's will report there position back to **USCG RESCUE 21** . They will dispatch all vessels and rescue needed and while you are tending to the problem the system will be transmitting your lat, lon on request from **USCG RESCUE 21** and all vessels, aircraft dispatched.