The course consists of this 3 hour pre-course learning followed by 7 hours of learning in the classroom. There is a short written paper and practical examination at the end of the course conducted by an independent examiner.

Full Syllabus for the C.E.P.T. Short Range Certificate

The exam syllabus for the SRC qualification is specified by CEPT, the European administration that regulates standards for telecommunications. This is detailed below:

A   The general principles and basic features of the maritime mobile service relevant to vessels NOT subject to a compulsory fit under SOLAS convention

A.1 The general principles and basic features

A.1.1 Types of communication in the maritime mobile service

- Distress, urgency and safety communications
- SAR (Search and Rescue) Communication
- Public correspondence
- Port operations service
- Ship movement service
- Intership communications
- On board communications

Knowledge of:

- Public correspondence calls can be made from ship-to-shore but these are no longer used in the UK

Understands:

- Different types of radio communications, their usage and order of priority

Can:

- Define the terms "Distress", "Urgency" and "Safety"
- Explain when distress, urgency and safety and routine communications should be used

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A.1.2 Types of station in the maritime mobile service

- Ship stations
- Coast stations
- Pilot stations, port stations and VTS
- Aircraft stations
- Rescue Co-ordination Centres (RCC)

Knowledge of:

- Different types of ship, coast stations and aircraft stations

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A.1.3 Elementary knowledge of radio frequencies and channels appropriate to the VHF maritime mobile band

- The concept of frequency
- Propagation and range of VHF frequencies
- The usage of VHF frequencies in the maritime mobile service
- The concept of radio channel: simplex, semi-duplex and duplex
- Channel plan for VHF, including allocations for the GMDSS
- Distress and safety channels
- National channels for small craft safety
- Intership communications
- Port Operations
- Ship movement
- Calling channels
- Public correspondence channels

Knowledge of:

- The concept of radio frequencies and how these frequencies are mapped to channels
- VHF, MF and HF transmissions and the differences between each
- Private Channels
- The workings of simplex, semi-duplex and duplex channels
- The ITU channel plan to which some countries do not conform

Understands:

- The principles of VHF Radio transmissions
- International differences of CH80 and good practice when using this channel
- Which channels may be used for distress, port operations, ship movements, calling, intership communications, small craft safety, navigational safety, MSI and DSC

Can:

- Explain the allocated usage of channels, 06, 08, 13, 16, 67, 70, 72, 77, 80, M1 (37) and M2
- Define the purposes for which channel 16 may be used
- Calculate approximate VHF ranges between different types of vessels and between vessels and Coast Stations

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A.2 System overview of the GMDSS structure

A.2.1 System design
- Structure
- Block diagram

Knowledge of:

- The GMDSS Structure

Understands

- GMDSS is part of the SOLAS Convention
- VHF DSC, Navtex, EPIRBS and SARTS are part of the GMDSS as well as VHF marine radio in Sea Area A1

A.3 Search and Rescue (SAR)

A.3.1 SAR regions

A.3.2. The role of Rescue coordination centres

Knowledge of:

- The global organisation of SAR and the role of RCC's
- How SAR is organised in the UK, including the RYA SafeTRX database

A.3.3. Organisation of search and rescue

A.3.4 SAR communication including on-scene communications

Knowledge of:

- Sea Areas A1, A2, A3 and A4 and the GMDSS equipment carriage requirements

Understands:

- What communications equipment may be used in Sea Area A1

A.4 Maritime Safety Information (MSI)

A.4.1 The NAVTEX system
- Purpose and capabilities, including Distress and Safety functions
- Message format (transmitter ID, message type, message number)
- Selection of transmitters and message type
- Message which cannot be rejected

Knowledge of:

- The NAVTEX system for SAR , safety of navigation, meteorological warnings and forecasts
- Message types and which can and cannot be rejected
- NAVTEX message format
- NAVTEX range and selection of transmitters

B Detailed working knowledge of radio equipment

B.1 The VHF radio installation

B.1.1 Radiotelephone channels
- Channel Selection and controls
- Dual watch facilities and controls

B.1.2 Basic controls and usage
- Connecting and power
- Press to transmit switch
- High/low power output power switch
- Volume control
- Squelch control
- Dimmer

Knowledge of:

- Typical power supplies on small craft
- The restrictions for high and low power settings on fixed and handheld VHF sets

Understands

- The squelch adjustment function
- How the high and low power setting should be used and its effect on radio transmissions

Can

- Use the power on/off, volume, squelch, power output, channel selector, PTT switch, microphone, CH16 selector, dual and tri-watch, scan, dimmer and distress alert button functions
- Use the appropriate power settings on fixed and portable VHF sets

B.1.3 Handheld VHF radiotelephone

- Specifications

Knowledge of:

- The features that are unique to handheld VHF sets

B.1.4 Maritime VHF antennas

B.2 Purpose and use of Digital Selective Calling (DSC) facilities

B.2.1 Call categorisation, priority and definitions

- Distress
- Urgency
- Safety
- Routine

Understands:

- The order of priority of different types of call
- The advantages of using DSC Alerts and Announcements prior to voice transmissions

Can:

- Decide which type of call is appropriate to a given circumstance

B.2.2 Types of call:

- Distress call.
- All ships call.
- Call to individual station.

Understands:

- DSC Distress Alerts are broadcast to every station within range
- DSC Announcements may be sent to "All stations" a group or individuals

B.2.3 The Maritime Mobile Service Identity (MMSI) number system

- Nationality identification: Maritime Identification Digits (MID)
- Ship station numbers
- Coast station numbers
- Group call numbers

Knowledge of:

- UK Maritime Identification Digits
- Different types of MMSI numbers including those for Coast Radio Stations, Groups, Ship Radio Stations and Portable Stations

Understands:

- How an MMSI is issued, its format and purpose

Can:

- Can enter an MMSI manually or use a directory to a DSC Announcement

B.2.4 Facilities and usage

- Distress button
- Data Entry and display
- Manual and automatic updating of vessel position
- Reviewing received calls
- Watchkeeping functions and controls

Knowledge of:

- The watch and log keeping requirements for UK vessels

Understands:

- Different VHF sets have different DSC menu structures and it is important to familiarise yourself with the equipment you use

Can:

- Use DSC menu functions to enter and view information including received messages
- Enter a manual vessel position
- Enter a MMSI number and name into a directory
- Operate the distress button

B.3. Atennas, interfacing and power sources

B.3.1 Antennas performance and positioning

Knowledge of:

- Different types of maritime VHF antennas and their different characteristics including gain, material, length and radiation patters

Understands:

- VHF antennas work on line of sight

B.3.2 Interfacing
- Connection to position device

> **Knowledge of:**
>
> - Radio sets may have a built-in GNSS receiver or be interfaced with an external device

B.3.3 Power sources
- Connections to different power sources
- Requirements and safety
- Charging
- Maintenance of batteries

> **Knowledge of:**
>
> - Types of batteries used to power fixed and portable VHF sets and their characteristics, charging and maintenance requirements

C. Procedures and Practical Operation of the Subsystems

C.1 DSC distress, urgency and safety communication procedures

C.1.1 Distress Procedures
- Transmission of a distress alert
- Receipt and acknowledgement by a coast station
- Reception of a shore-to-ship distress alert relay
- Transmission of a distress alert by a station not itself in distress

> **Knowledge of:**
>
> - How Distress traffic is managed by a coast station
> - Options when sending a designated Distress (nature of distress)
>
> **Understands:**
>
> - What data is sent as part of a Distress Alert
> - Distress Alert should be followed by a Distress voice call and message
> - Distress Alert should be acknowledged by a coast station in Sea Area A1
> - Only a vessel itself in Distress should transmit a Distress Alert
> - Coast stations are the preferred controlling station in Sea Area A1
>
> **Can:**
>
> - Accept a Distress Alert then follow correct procedure
> - Send a designated and undesignated Distress Alert

C.1.2. Urgency and Safety Communications via DSC equipment

- Procedures for DSC Urgency and Safety announcements

Understands:

- Urgency Announcement should be followed by an Urgency voice call and message
- Safety Announcement should be followed by a Safety voice call and message
- Routine Announcement should be followed by a voice call and message

Can:

- Accept and Urgency Announcement, Safety Announcement and Routine Announcement then follow correct procedure for each
- Send and Urgency Announcement, Safety Announcement and Routine Announcement and select a working channel

C2 Protection of distress frequencies

C.2.1 Avoiding harmful interference

- Avoidance of the transmission of false alerts
- Status of Channel 16 and 70

Understands:

- CH70 is only used for DSC
- Rules regarding the use of CH16
- The master of the vessel should authorised any distress transmissions

C.2.2 Transmissions during distress traffic

Knowledge of:

- What transmissions are permitted and prohibited if distress working is in progress

C.2.3 Prevention of unauthorised transmissions

Understands:

- What type of transmissions are prohibited
- Marine VHF radio should only be operated by, or under the direct supervision of, holders of an Operator's Certificate of Competence and Authority to Operate

C.2.4 Test protocols and procedures

- Testing DSC equipment
- Radiotelephone test procedures

Understands:

- When and how voice and DSC transmissions should be tested

Can:

- Send a radio check request to an appropriate station

C2.5 Avoidance of transmissions in VHF guard bands

Knowledge of:

- Precautions when using channels 15, 17, 75 and 76

C.2.6 Procedures to follow when a false or inadvertent Distress Alert is transmitted

Understands:

- Action to take if a Distress Alert, Urgency or Safety Announcement is sent in error

C3 Alerting, Communication and Locating Signals

C.3.1 406 MHz Emergency Position Indicating Radio Beacons (EPIRBS)

- Registration and coding
- Operation, activation and testing
- 121.5 MHz homing function
- Mounting float-free mechanism
- Battery expiry date

Knowledge of:

- EPIRB features including antenna, battery (and expiry date), HEX ID, activation system, mounting system and flashing light
- 406MHz Cospas-Sarsat system
- Testing, service and maintenance recommendations for EPIRBS
- EPIRBS may also incorporate a 121.5MHZ homing signal, a GNSS receiver or AIS transmitter
- Each device will have a battery expiry date

Understands:

- Requirement to register a 406MHz beacon and how this is done in the UK
- When and how to activate and EPIRB
- The action to take in the event of an inadvertent EPIRB activation
- The differences between and EPIRB and PLB

C.3.2 Search and Rescue Transponder and Transmitter (SART)

- Operation height and range
- Battery expiry date

Knowledge of:

- Various AIS and DSC MOB beacons are commercially available but are not part of the GMDSS

Understands:

- The differences between AIS-SARTS and Radar SARTS
- How an AIS-SART will appear on a display and how it is used for SAR
- How an activated RADAR-SART will appear on a display and how it is used for SAR
- Each device will have a battery expiry date

Can:

- Calculate approximate ranges between a SART and other stations

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C.3.3 Handheld VHF

- Operation
- Communication range
- Battery provision

Understands:

- Differences between the operation of handheld and fixed VHF sets
- Importance of having a spare battery or suitable charging routine to ensure the handheld VHF has power when needed

Can:

- Calculate approximate ranges between a handheld VHF and other stations

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D Operational procedures and regulations for VHF radiotelephone communications

D.1 Ability to exchange communications relevant to the safety of life at sea.

D.1.1 Distress communications
- Distress signal MAYDAY
- Distress call
- Distress message
- Acknowledgement RECEIVED MAYDAY
- Follow up distress traffic
- The control of distress traffic
- SEELONCE MAYDAY and SEELONCE FENNEE
- Transmission of a distress message by a station not itself in distress
- MAYDAY RELAY

Understands:

- Distress Alert should be followed by a Distress voice call and message
- "Mayday" is the Distress signal proword used:
    o In a Distress call by the station in distress
    o At the start of each transmission that is relevant to distress working
- "Mayday Relay" is the Distress Relay signal proword used by a station transmitting a Distress Relay call on behalf of another station in distress
- Distress call is "broadcast" but other types of call must be sent to "All stations", a group or a named station
- What action to take upon receipt of a Distress call and message
- The coastguard usually controls a Distress situation in Sea Area A1

Can:

- Decide when to send a Distress call and message
- Construct a Distress call and message
- Recognise prowords used during distress traffic including – "Seelonce Mayday" and "Seelonce Feenee"
- Decide when and how to acknowledge (by voice) receipt of a Distress Alert or Distress call and message
- Decide when a Distress Relay is appropriate and follow correct procedure
- Construct and send a Distress Received call and message
- Construct and send a Distress Relay call and message

D.1.2. Urgency communications

- Urgency signal PAN-PAN
- Urgency call
- Urgency message
- Radiomedical

Understands:

- An Urgency Announcement should be followed by an Urgency voice call and message
- "PAN-PAN" is the Urgency signal proword
- Medical advice should be requested using an Urgency call
- "Radio medical advice" is requested using and Urgency call

Can:

- Decide when to send an Urgency call and message
- Construct and send an Urgency call and message

D.1.3. Safety Communications

- Safety signal SECURITE
- Safety call
- Safety message

Understands:

- A Safety Announcement should be followed by a Securite voice call and message
- "Securite" is the safety signal proword
- The preferred option is for a ship station to relay safety information to a coast station

Can:

- Construct a Safety call and message

D.1.4. Awareness of the existence and use of the IMO Standard Marine Communication Phrases Vocabulary

- English phrases

Can:

- Use English during radiotelephony
- Use of common marine communication phrases and prowords

D.1.5. Phonetic alphabet

Can:

- Use the phonetic alphabet

D.2 Practical and theoretical knowledge of radiotelephony procedures

D.2.1. Traffic routines
- Use of callsigns
- Establishing communications on intership, port operation and ship movement channels
- Unanswered calls and garbled calls

Knowledge of:

- How a UK callsign is issued, its format and purpose

Understands:

- Radio voice protocol including:
  o Listening before initiating a voice call
  o Appropriate number of times to repeat your own identity and the identity of the vessel you are calling depending upon the situation
  o How long to wait before repeating a call
  o What action to take if a call is not answered
  o What action to take if you are not certain that a call was intended for you
  o What action to take if a call is from a station whose identification you did not hear

Can:

- Decide when a Routine call is appropriate
- Can construct and send a variety of Routine calls to another vessel on CH16 and transfer to a working channel
- Can use correct procedure for Routine calls and messages

D.2.2 Public correspondence and radiotelephony call procedures
- Method of calling a Coast Station
- Calls to ships from a Coast Station

D.2.3. Traffic charges

- International charging system
- Accounting Authority Identification Code (AAIC)

Knowledge of:

- How public correspondence calls are made
- Some countries, including the UK, no longer offer public correspondence

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E Regulations for VHF Communications

E1. Regulations, obligatory procedures and practices

E.1.1. Awareness of National and International Documentation

- List of Coast Stations and Special Service Stations
- List of Ship Stations and Maritime Mobile Service Identity Assignments
- National manuals

Knowledge of:

- ITU>MARS database
- The ITU Radio Regulations are the international reference for maritime legislations

Understands:

- Which organisations are responsible for making and regulating the rules that govern the use of maritime radio (ITU, CEPT, Ofcom and the MCA)
- Usage of some channels differs by county and where to source local information

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E.1.12. Knowledge of the International Regulations and Agreements

- Radio Operators Certificate
- Ship Station Licence
- Radio record keeping
- Secrecy of correspondence
- Prohibited transmissions
- Watch keeping

Knowledge of:

- Other operator licences such as ROC, LRC and GOC
- Different countries enforce their own radio licensing regulations
- Which channels require a listening watch (CH16, VTS and possibly CH13)

Understands:

- Regulations regarding what types of calls and call content that are prohibited
- SRC Operator Certificate authorises the operation of VHF DSC and VHF radios
- How to obtain Ship Radio Licence or a Ship Portable Radio Licence
- What equipment must be covered by a Ship Radio Licence
- What an Ship Portable Radio Licence is required and the restrictions on this type of Licence
- Importance of keeping the licence valid and up to date
- Requirement to keep ship and operator licences with the equipment
- The requirement for secrecy with radio communications

F Examination Requirements

Candidates must show proof of theoretical and practical knowledge and compliance with national requirements.