

Radio Communication

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Preparatory Notes to Instructor

Background

Despite the fact that most police officers are users of radio communication equipment in their own countries and have knowledge of communications procedures, differences might arise due to the diverse background of UN Police in a Peacekeeping Operation. Therefore, there is a need to standardize procedures to improve the communication flow and prevent language barriers that might create misunderstanding. For this reason concise, consistent radio procedures and protocols are vital to ensure that messages are accurately relayed and ultimately contribute to the success of a mission. On the other hand, poor use of radio communications can mean a breach of security and may lead to major problems including deaths and mission failure. In this session the main elements required, to apply UN radio procedures and protocol will be covered.

Aim

To enhance the general knowledge of radio communications through the use of:

- appropriate radio procedures
- procedure words (pro-words)
- the international phonetic alphabet

Learning Outcomes

On completion of the Radio Communication module, participants will be able to:

- Define communication
- List the different parts of a hand radio
- Apply pro-words and international phonetic alphabet
- Use appropriate radio procedures

Training Sequence

It is suggested that the material contained in this module be delivered over two training units. The first part of the module content should be conducted as interactive presentation and discussion supported by power point presentation.

The second part of the module consists of practical exercises. Finally, radio communication should be an integral part of the field exercise.

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Duration

Minimum Session Time	Lecture/Presentation	Questions/Assessment	Session Activities
40 minutes +	25 min	15 min.	As needed
Additional Options	Mission Specific	Optional Film	Optional Activity
60 minutes			60 min. activity

Methodology

This module provides basic knowledge to the participants regarding radio communication and contains a variety of suggested learning activities to keep adult learners engaged. The facilitation team should use as many of the learning activities as time allows and keep them tailored to the target audience. Participants should be fully involved in the learning process through practical exercises, brainstorming sessions, working in small groups on specific tasks. A practical exercise is regarded as being essential for a better understanding of the topic

The facilitator should inform participants of the content, format and timing. Knowing what to expect, participants can improve their ability to focus on the subject and benefit better from the session.

- Definitions
- Differences between VHF and UHF
- International phonetic alphabet, pro-words and basic radio procedures
- General instructions in radio communication
- Exercises and summary
- Learning outcome assessment

* **Please Note:** It is up to the learning institution to decide whether the learning assessment questions are used informally in a group question and answer session, or if they are provided to the participants as a written quiz. In either case, it is recommended that the correct answers are provided at the end of the assessment in order to ensure participants are clear on the key messages.

Instructors are encouraged to add examples and mission-specific information related to the specific deployment of participants, if known.

Instructor Profile

This Module is best presented by an instructor who has mission experience in radio communication, who could share his/her experience with the group. For the practical part it is recommended that there be one facilitator for every four participants.

Instructor Preparations

Required Readings

- “United Nations Police Handbook” Police Division, DPKO, UN, 2005.
- OCHA Standard Communication Procedures; to be found on ochaonline.un.org/OchaLinkClick.aspx?link=ocha&DocId=1005299

General Preparations

Equipment:

1. Computer and PowerPoint slides
2. Projector and Screen
3. Flip Chart

Materials:

1. Copies of handouts
2. Radio communication equipment

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Symbols Legend

 **Note to the Instructor (Some background information for consideration)**

 Speaking Points (The main points to cover on the topic. Ideally the speaking points are presented in the instructor's own words versus being read to participants)

 Mission Specific (A point where the session will benefit from mission specific information)

 Example (Stories that illustrate a point or key message)

 Sample questions (A list of potential questions to pose to participants)

 Handout (Indicates a handout is provided to participants at this point)

 Film (A film that is recommended as a core part of the training or an option)

 Core Learning Activity (An activity that is strongly recommended for inclusion)

 Optional Learning Activity (An activity that can be used if there is time and it is appropriate for the participant group. Guidelines for these activities are provided at the end of the unit, section or part – as indicated in the text)

 Key summary points (Key messages that are worth repeating at the end of the session. Alternatively, the instructor can ask participants what are the main messages they are taking from the session. Instructors can then fill in any points that have been missed.)

Session Notes

Radio Communication	Slide 1
<p>Consistent radio procedures and protocols are vital to ensure that:</p> <ul style="list-style-type: none"> • messages are accurately relayed • contribute to the success of a mission 	

 **Note to Instructor:** Give the participants a brief explanation why they should pay special attention to this module. Refer to: Background in the Preparatory Notes to the Instructor.

Aim	Slide 2
<p>To enhance the general knowledge of radio communications through the use of:</p> <ul style="list-style-type: none"> • appropriate radio procedures • procedure words (pro-words) • the international phonetic alphabet 	

Learning Outcome	Slide 3
<p>On completion of the module, participants will be able to:</p> <ul style="list-style-type: none"> • Define communication • List the different parts of a hand radio • Apply pro-words and international phonetic alphabet • Use appropriate radio procedures 	

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Structure of the presentation	Slide 4
<ul style="list-style-type: none">• Definitions• Differences between VHF and UHF• International phonetic alphabet, pro-words and basic radio procedures• General instructions in radio communication• Summary and exercises• Learning outcome assessment	

 **Note to instructor:** To show participants the challenges of proper communication do the following exercise:

Ask the participants to be seated in a circle. Write the phrase: “Use of Radio Communication in the Mission Area” on a piece of paper and give it to one of the participants. Ask him to whisper this phrase to the next trainee. The phrase is to be transferred through all of the students. The last participant is supposed to write the final transmission on a white board.

Brainstorm where the main challenges in communicating in foreign language lie.

The aim of any communication is to transfer messages. The efficiency is determined by the common understanding of these messages by both the sender and the receiver.

 **Expected Outcome:**

- External noise
- Accent
- Lack of clarity
- Misunderstanding
- Others

Definitions	Slide 5
<ul style="list-style-type: none">• Communication• Radio Communication	

 **Note to Instructor:** Ask participants about their understanding of communication and radio communication.

 **Expected Outcome:**

1. Communication:

- A process by which information is exchanged between individuals through a common system of symbols, signs, or behaviours
- A technique for expressing ideas effectively (as in speech) (<http://www.merriam-webster.com/dictionary/communication>)

2. Radio Communication:

- Term used to describe the transfer of information between two or more points by use of radio or electromagnetic waves. www.sciencelobby.com/dictionary/r.html
- Radio is the transmission of signals, by modulation of electromagnetic waves with frequencies below those of visible light. en.wikipedia.org/wiki/Radio_communication

Common UN Equipment	Slide 6
<ul style="list-style-type: none"> • Very High Frequency Radio (VHF) Radio • Ultra High Frequency (UHF) Radio • Satellite Telephone 	

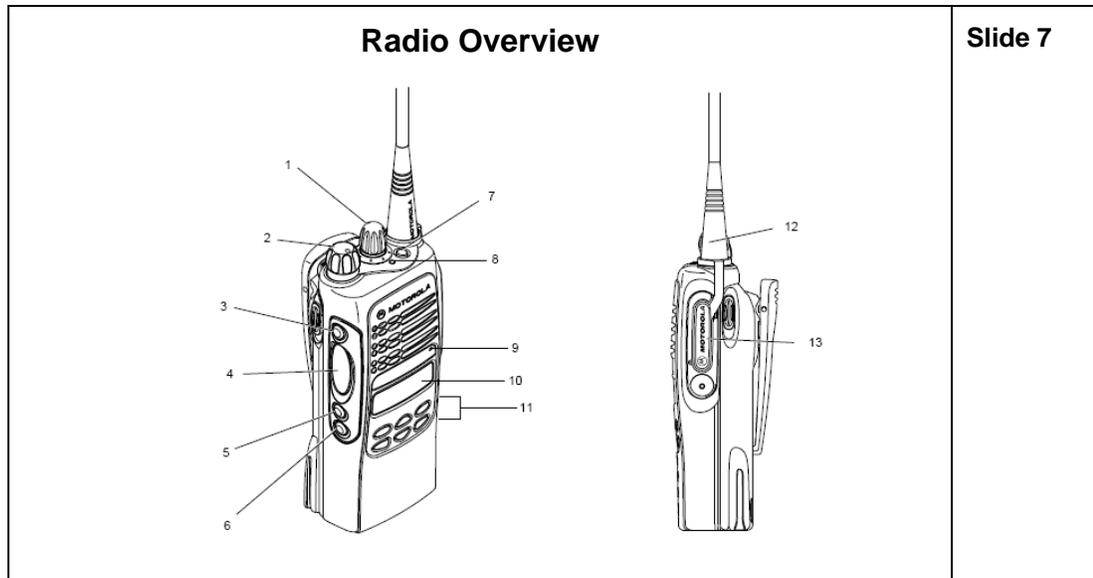
 **Common UN Equipment:**

- VHF Radios: Usually comes as handset and it's the most common equipment in the mission area, and covers a distance up to 10 kilometres.
- UHF Radios: Commonly present in UN vehicles and in the communication base, their coverage is much larger, up to 60 kilometres.
- Satellites phones: Is the least available in the mission area, mostly due to the cost associated to the equipment.

The importance of radio communication should be highlighted:

- Often radio is the only means of communications with the HQ and other colleagues
- It is an independent medium for quick information transfer
- In case of an emergency or incidents, radios are more efficient than phones
- A group of people can be informed at once

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 **Note to Instructor:** Go through the parts of the radio with participants. (The equipment used as reference is the Motorola GP 360).

 Operation and control functions:

Radio Controls

- Rotary Knob: Used as a channel selector and for multifunction scrolling.
- On-Off / Volume Knob: Used to turn the radio on or off, and to adjust the radio's volume.
- Side Button 1 (Programmable): Recommended for Monitor/ Call Cancel Button.
- Push to Talk Button (PTT): Press and hold down this button to talk, release it to listen.
- Side Button 2 (Programmable)
- Side Button 3 (Programmable)
- Top Button (programmable): Recommended as Emergency button.
- LED Indicator
 - Green: *Successful power up.*
 - Green Flashing: *Radio scanning.*
 - Red: *Radio transmitting.*
 - Red Flashing: *Channel busy - when receiving.*
 - Yellow: *Radio called.*
 - Yellow Flashing: *Radio call reminder alert.*
 - Red Flashing: *Low battery warning – when transmitting.*
- Microphone

- LCD Display (1 Line)
- Menu Keys
- Antenna
- Accessory Connector: Connects headsets, remote speaker/microphones and other accessories. Replace attached dust cap when not in use.
- Programmable Buttons: Several of your radio buttons can be programmed (by customer Programming Software CPS) to activate the radio features. The following table shows the features that can be assigned to the Top button and Side Buttons 1, 2 and 3. Note to Instructor

Standardized Procedures	Slide 8
<ul style="list-style-type: none"> • International Phonetic Alphabet • Procedure words (pro-words) Insert slide bullets 	

 **Note to Instructor:** For most of the police officers deployed to a peacekeeping mission, English is a second language, so using the International Phonetic Alphabet as well as pro-words, improves communications.

The participants should be handed out the International Phonetic Alphabet, as well as a list of the most common pro-words (find hand out in the reference material).

- *Let participants spell their names and/or names of places according to the international phonetic alphabet*
- *Show participants pro-words and let them explain their meaning*

Preparing to transmit	Slide 9
<ul style="list-style-type: none"> • Preparing the set for operations • Transmitting « General Instructions » • Basic Radio procedures 	

 **Note to instructor:** Brainstorm with participants the procedures related to the bullet points on the above chart.

 **Expected Outcome:**

1. Preparing the set for operation

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- Make sure that there is a power source that is sufficient and ensure correct connection to the radio set
- Check the antenna and all cable assemblies ensuring tight and correct connection to the set
- Connect the audio accessories and check proper operation of function switches

2. Transmitting General Instructions

- Decide in advance what you are going to say to ensure that it will be clear and brief
- Make sure no one else is speaking on the net when you start
- Remember to divide your message into sensible phrases, make pauses and maintain a natural speech rhythm
- Avoid excessive calling and unofficial transmission
- Use standard pronunciation, emphasize vowels sufficiently, avoid extreme pitch, speak in a moderately strong voice and do not shout
- Keep a distance of about five (5) cm between the microphone and your lips; and
- Shield your microphone from background noises
- Spell names of people and places phonetically

NEVER FORGET “EMERGENCY – EMERGENCY – EMERGENCY”	Slide 10
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Note to Instructor: *It should be emphasized that in case of an emergency, the word should be repeated three times and everybody should stop the communication and wait for instruction from base “EMERGENCY-EMERGENCY-EMERGENCY”*

Security Awareness During the radio communications do not disclose: <ul style="list-style-type: none">• Personal or sensitive information• Policy issues• Only official call signs are to be used• Only the official language of the mission is to be used	Slide 11
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- Radio communication might not provide 100% security of the information circulated.

Based on this security issue, sensitive information should not be transmitted over the radio such as names, positions, addresses, telephone numbers etc.

During the radio communications official call signs will be used. It is every officer's responsibility to be aware of the communication plan in the operational area.

As a rule, the official language of the mission should be used during the communication.

Summary	Slide 12
<ul style="list-style-type: none">• Appropriate radio procedures• Procedure words (pro-words)• International Phonetic Alphabet	

- **Note to Instructor:** *If time allows divide class in groups and hand out the exercises in the Optional Learning Activity.*

Learning Outcome Assessment

It is up to the learning institution to decide whether the learning assessment questions are used informally in a group question and answer session, or if they are provided to the participants as a written quiz. In either case, it is recommended that the correct answers are provided at the end of the assessment in order to ensure participants are clear on the key messages.

At the end of the entire unit and/or the conclusion of the STMs, instructors may want to choose some of the following questions for review.

Questions

1. What is Communication and Radio Communication?
2. What is the difference between UHF and VHF?
3. List and explain 5 of the most used pro-words.
4. What do you do when you begin a journey?
5. What do you do when you have an emergency and when you hear an emergency?



Expected Outcome:

1. What is Communication and Radio Communication?

Communication:

- A process by which information is exchanged between individuals through a common system of symbols, signs, or behavior
- A technique for expressing ideas effectively (as in speech) (<http://www.merriam-webster.com/dictionary/communication>)

Radio Communication:

- Term used to describe the transfer of information between two or more points by use of radio or electromagnetic waves. www.sciencelobby.com/dictionary/r.html
- Radio is the transmission of signals, by modulation of electromagnetic waves with frequencies below those of visible light. en.wikipedia.org/wiki/Radio_communication

2. What is the difference between UHF and VHF?

- VHF Radios: Usually comes as handset and it's the most common equipment in the mission area, and covers a distance up to 10 kilometers.

- UHF Radios: Commonly present in the UN vehicles and in the communication base, their coverage is much larger up to 60 kilometers.

3. List and explain 5 of the most used pro-words.

Affirmative	Yes/correct
Negative	No/incorrect
Message	I have an informal message for you
Send Message	go ahead, transmit, I am ready to copy
Over	This is the end of my turn of transmitting, a response is expected
Out	This is the end of my transmission, no answer is expected
Roger	I have received your last transmission satisfactory
Wilco	I will comply your request
Radio check	How do you listen to me

4. What do you do when you begin a journey?

- Always do Radio Check with BASE to make sure the communication is clear.

5. What do you do when you have an emergency and when you hear an emergency?

- If you have and emergency repeat three times the word:
EMERGENCY EMERGENCY EMERGENCY
- If you hear and emergency call, stay silent and wait for instructions from base.



Optional Learning Activity: Difficulties in Radio Communication

The purpose of this group discussion activity is to indicate main difficulties and mistakes during radio communication, emphasize the proper way in which the communication should be conducted, and highlight the necessity of practice for developing the skills of the radio communication

60

Learning Activity Time Required:

10 minutes	for activity introduction and instructions
15 minutes	for exercise 1
15 minutes	for exercise 2
20 minutes	debrief in the large group*
Total time: 60 minutes	*total time dependent number of groups



Exercise 1

- Alpha Base – Requests A1 to report the current locations and activities of units A2, A3 & A4.
- A2 – is on foot patrol in Central Market.
- A3 – is at the base of Mt. Danger attempting to recover your vehicle from the muddy creek.
- A4 – travels west along the Comoro Rd on patrol.



Exercise 2

Scenario: A5 you have attended a Domestic Violence incident near Bairro Pite. The victim needs medical attention, and the offender is still at the location. The offender is violent and armed with a large knife. You request appropriate assistance.

- A6 you are the closest unit.
- A1 remember you are the commander of all teams.



Note to Instructor: Divide the class in groups according to the number of call signs mentioned in each scenario for practical exercises.

 **Activity Guidelines:**

1. Use a role play scenario and give participants the radio communication equipment.
2. Dispatch them in different sites outside the classroom.
3. Ask the participants to use the radio equipment as per exercise.
4. At the end of exercise, indicate main difficulties and mistakes they made during the radio communication exercise. Emphasize the proper way in which the communication should be conducted. Highlight the necessity of practice for developing the skills of the radio communication.

 **Expected Outcome:**
Exercise 1

- A1 this is Alpha Base, message, over.
- Alpha Base this is A1, sent message, over.
- From Alpha Base, inform location and activities of A2, A3, and A4, over.
- From A1, WILCO, over

- A2, A3, A4, this is A1, inform your current location and activity, over.
- From A2, I am in foot patrol in Central Market, over.
- From A1, roger, out.

- From A3, I am at the base of Mt Danger, attempting to recover my vehicle from the muddy creek, over.
- From A1, roger, out.

- From A4, I am in patrol travelling along Comoro Rd., over.
- From A10, roger, out.

- Alpha Base this is A1, message, over
- From Alpha Base, sent message over
- From A1, to inform current location and activity of A2, A3, and A4, roger so far, over.
- From Alpha Base, roger so far, over
- From A1, A2 in foot patrol in Central Market

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- A3, at the base of Mt Danger, attempting to recover his vehicle from the muddy creek
- A4, in patrol travelling along Comoro Rd
- From A1, end of message, over
- From Alpha Base, roger, out

Exercise 2

- A5, EMERGENCY, EMERGENCY EMERGENCY
- A5 this is A1, report your emergency
- From A5, I am in Bairo Pite there has been a domestic violence incident,
- Offender in place, violent and armed
- Medical attention needed for the victim
- Back up is requested, over.
- A1 to all station near Bairo Pite, over
- A1 this is A6, I am in the area, over
- From A1, proceed to Bairo Pite and support A5, keep me informed, over
- From A6, WILCO, over
- A5 this is A1, A6 its on his way, keep me informed, over
- From A5, roger, over
- Alpha Base this is A1, message, over
- From Alpha Base, sent message, over
- From A1, medical assistance is needed in Bairo Pite due to domestic violence incident, A5 and A6 in place, offender in the house, over.
- From Alpha Base, roger, out.