

Communication at Sea



Layout **COMMUNICATION AT SEA**



Flags, semaphores, and other systems

Inmarsat System

International code flags

Geosynchronous satellites

Morse code

The concept of maritime communication

VHF

Transmission of letters and numbers.

**Frequency of the radio wave used
for the maritime communication**

The figure code

Satellite communication

SSB

**Grammar notice - 'if sentences
and the 'unreal' past**

VOCABULARY

Pennant

Intermediary

Dot

Alignment

Dash

Headquarters

Relay

Appliance


Input

VOCABULARY

- **Pennant (n)** - a flag occasionally flown
- **Dot (n)** - a short sound or click
- **Dash (n)** - the mark (-); a long sound or signal
- **Relay (v)** - receive and pass on (a message, etc.)
- **Intermediary (n)** - a go-between, mediator
- **Alignment (n)** - arrangement in a straight line
- **Headquarters (n)** - the main office
- **Appliance (n)** - a device for performing a specific task
- **Input (n)** - the act of putting in



The
communication
effective




The
communication
*uncomplet
ed*



The communication
effective – communicator
received the confirmation on
acceptance of message by
recipient.

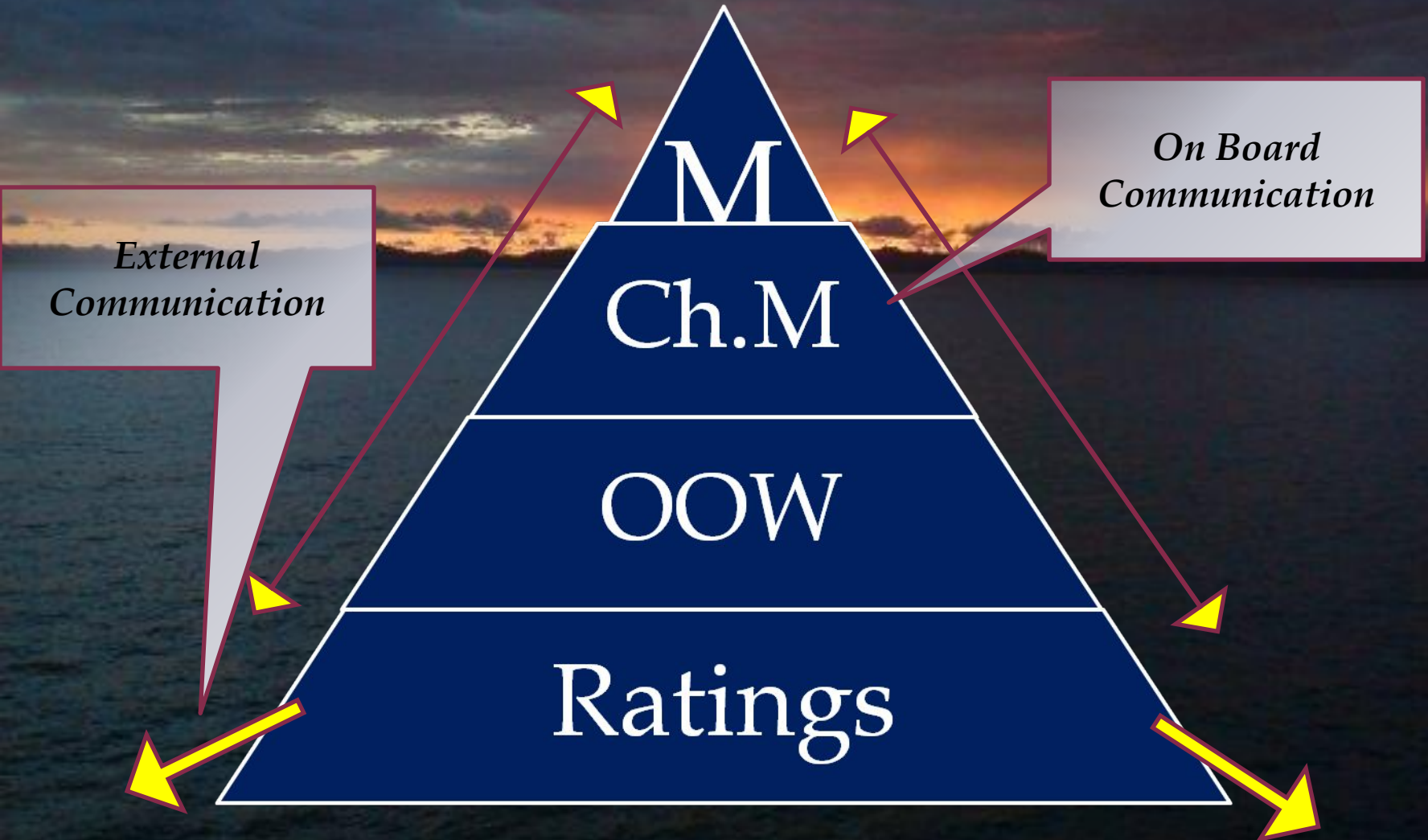
The communication
uncompleted - no feedback
confirming reception of message by
recipient.

SMC
P,
2001

A photograph of a ship's bridge. In the foreground, a man in a light pink shirt is seated at the helm, wearing sunglasses and speaking into a microphone. He has his right hand on the steering wheel. In the background, another man in an orange shirt is seated at a console, looking out a window. The bridge is equipped with various electronic equipment, including a large monitor and a control panel. A sign above the equipment displays the letters 'N F H L S D S L F L C A'. The scene is brightly lit, suggesting daytime.

"All wheel orders given should be repeated by the helmsman and the officer of the watch should ensure that they are carried out correctly and immediately".

Structure of the communication



Communication at Sea





**Written
messages**

**Flags,
semaphores,
and other
systems**

**One of the
oldest methods
of remote
communication**

a message could
be sent to anyone
who could see it
and understand it.

International Code Flags

Flag	Name & Phonetic Pronunciation	Meaning
	Alfa AL-fah	I have a diver down; keep well clear at slow speed.
	Bravo BRAH-voh	I am taking in, discharging, or carrying dangerous cargo.
	Charlie CHAR-lee	"Yes" or "affirmative". Change of Course (Sailing Regatta)
	Delta DELL-tah	I am maneuvering with difficulty; keep clear.




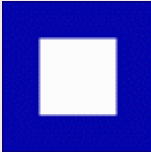
International Code Flags

Flag	Name & Phonetic Pronunciation	Meaning
	Echo ECK-oh	I am directing my course to starboard.
	Foxtrot FOKS-trot	I am disabled; communicate with me. On aircraft carriers: Flight Operations underway
	Golf GOLF	I require a pilot.
	Hotel hoh-TELL	I have a pilot on board.


International Code Flags

Flag	Name & Phonetic Pronunciation	Meaning
	India IN-dee-ah	I am directing my course to port. (International) Coming alongside. (Navy) Round the Ends Starting Rule (Sailing Regatta)
	Juliet JEW-lee-ett	I am on fire and have dangerous cargo; keep clear.
	Kilo KEY-loh	I wish to communicate with you.
	Lima LEE-mah	You should stop your vessel immediately. Come Within Hail or Follow Me (Sailing Regatta)

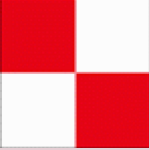

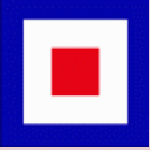
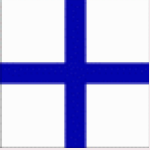
International Code Flags

Flag	Name & Phonetic Pronunciation	Meaning
	Mike MIKE	My vessel is stopped; making no way. Mark Missing (Sailing Regatta)
	November no-VEM-bur	No or negative. Abandonment and Re-sail (Sailing Regatta)
	Oscar OSS-kur	Man overboard.
	Papa pah-PAH	All personnel return to ship; proceeding to sea (Inport).

International Code Flags

Flag	Name & Phonetic Pronunciation	Meaning
	Quebec kay-BECK	Ship meets health regs; request clearance into port. (International) Boat recall; all boats return to ship. (Navy)
	Romeo ROH-me-oh	None. (International) Preparing to replenish (At sea). Ready duty ship (In port). (Navy)
	Sierra see-AIR-ah	Moving astern. (International) Conducting flag hoist drill. (Navy) Shorten Course(Sailing Regatta)
	Tango TANG-go	Keep clear; engaged in trawling. (International) Do not pass ahead of me. (Navy)


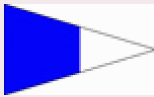

International Code Flags

Flag	Name & Phonetic Pronunciation	Meaning
	Uniform YOU-nee-form	You are running into danger.
	Victor VIK-tah	I require assistance.
	Whiskey WISS-kee	I require medical assistance.
	Xray ECKS-ray	Stop carrying out your intentions and watch for my signals. Individual Recall(Sailing Regatta)

International Code Flags

Flag	Name & Phonetic Pronunciation	Meaning
	Yankee YANG-kee	I am dragging anchor. (International) Ship has visual communications duty. (Navy) Wear Life Jackets (Sailing Regatta)
	Zulu ZOO-loo	I require a tug. 20% Scoring Penalty (Sailing Regatta)
	Code/Answer Code or Answer	Message is understood. Also, numeric decimal point. (International) Flag that follows is from the International Code of Signals. (Navy) Postponement (Sailing Regatta)





International Code Flags

Flag	Name & Phonetic Pronunciation	Meaning
	First substitute (First Repeater) First sub	Substitute for the first flag in this hoist. (International) Also "repeats" the first flag or series of flags in this hoist Absence of flag officer or unit commander (In port). (Navy) General Recall (Sailing Regatta)
	Second substitute Second sub	Substitute for the second flag in this hoist. (International) Absence of chief of staff (In port). (Navy)
	Third substitute Third sub	Substitute for the third flag in this hoist. (International) Absence of commanding officer (In port). (Navy)


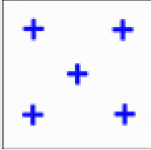


International Code Flags

Flag	Name & Phonetic Pronunciation	Meaning
	One WUN	None. (International) Numeral one. (Navy)
	Two TOO	None. (International) Numeral two. (Navy)
	Three TREE	None. (International) Numeral three. (Navy)
	Four FOW-er	None. (International) Numeral four. (Navy)

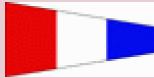

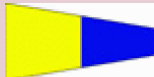

International Code Flags

Flag	Name & Phonetic Pronunciation	Meaning
	Five FIFE	None. (International) Numeral five. (Navy)
	Six SICKS	None. (International) Numeral six. (Navy)
	Seven SEV-en	None. (International) Numeral seven. (Navy)
	Eight ATE	None. (International) Numeral eight. (Navy)





International Code Flags

Flag	Name & Phonetic Pronunciation	Meaning
	Nine NIN-er	None. (International) Numeral nine. (Navy)
	Zero ZEE-roh	None. (International) Numeral zero. (Navy)
	Pennant one PEN-ant WUN	Numeral one. (International) Pennant one. (Navy)
	Pennant two PEN-ant TOO	Numeral two. (International) Pennant two. (Navy)

International Code Flags

Flag	Name & Phonetic Pronunciation	Meaning
	Pennant three PEN-ant TREE	Numeral three. (International) Pennant three. (Navy)
	Pennant four PEN-ant FOW-er	Numeral four. (International) Pennant four. (Navy) Postponement (Sailing Regatta)
	Pennant five PEN-ant FIFE	Numeral five. (International) Pennant five. (Navy)
	Pennant six PEN-ant SICKS	Numeral six. (International) Pennant six. (Navy)

International Code Flags

Flag	Name & Phonetic Pronunciation	Meaning
	Pennant seven PEN-ant SEV-en	Numeral seven. (International) Pennant eight. (Navy)
	Pennant eight PEN-ant ATE	Numeral eight (International) Pennant eight. (Navy)
	Pennant Nine PEN-ant NIN-er	Numeral nine (International) Pennant nine. (Navy)
	Pennant zero PEN-ant ZEE-roh	Numeral zero (International) Pennant zero. (Navy)

Powerful 150W, 250W
transceiver:
1 versions
flex option

design.

Built-in
speaker with
sound.

and easy
us.

easy to activate
tton.
ected against
nal activation.

Large display, readable from
wide angles. Red text and
dimming function ensure that
night vision is not disturbed.

Tactile rotary knobs for
volume and squelch.

VHF

Highly powerful and efficient
antenna tuner for fast tuning.

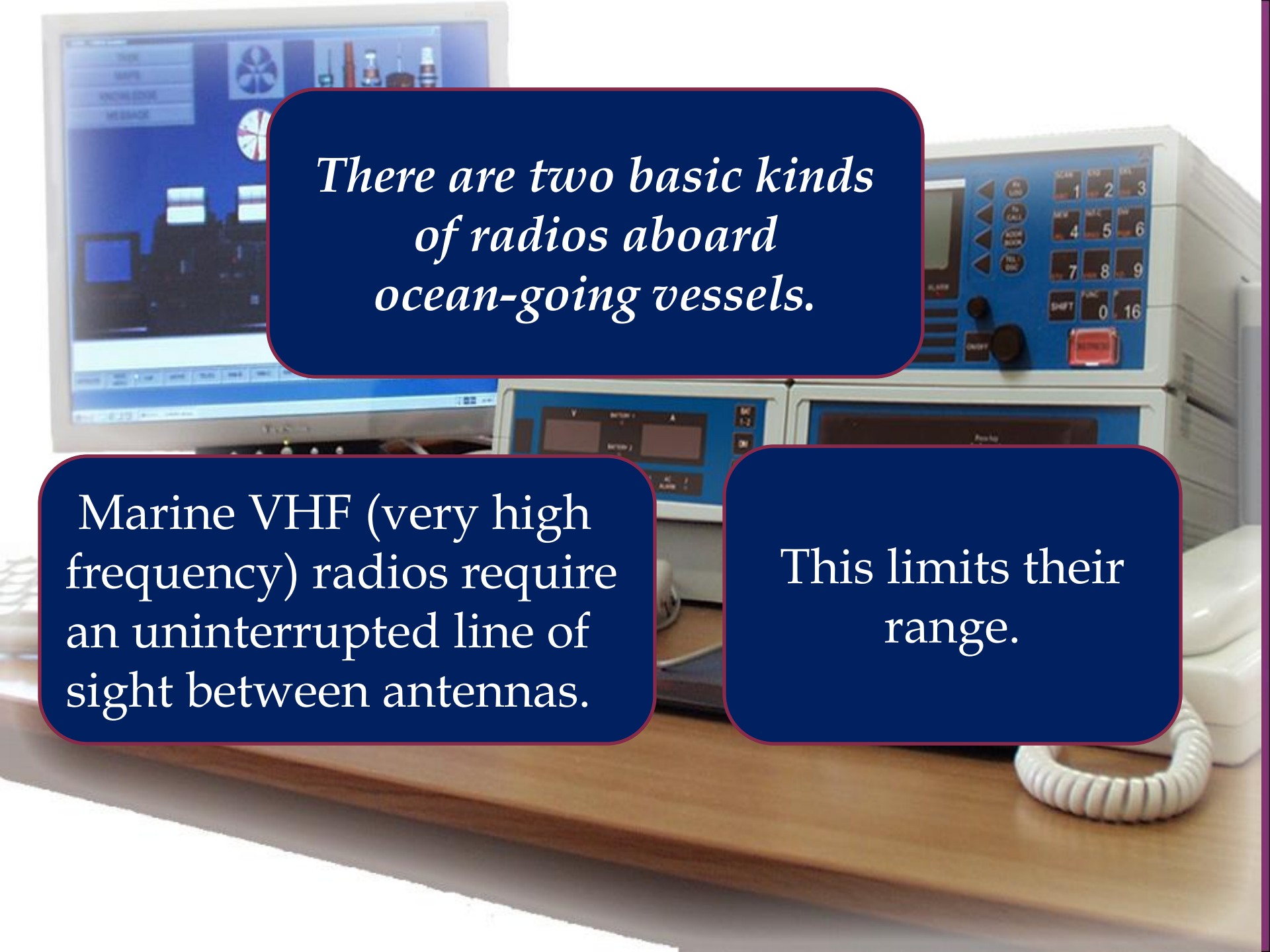
Marine AR anti-reflection f

Large tactile buttons for
easy operation of the MF/H
system.

Ergonomic and
ruggedized handset.

High-quality microphone in
noise reduction design.





*There are two basic kinds
of radios aboard
ocean-going vessels.*

Marine VHF (very high frequency) radios require an uninterrupted line of sight between antennas.

This limits their range.

SSB



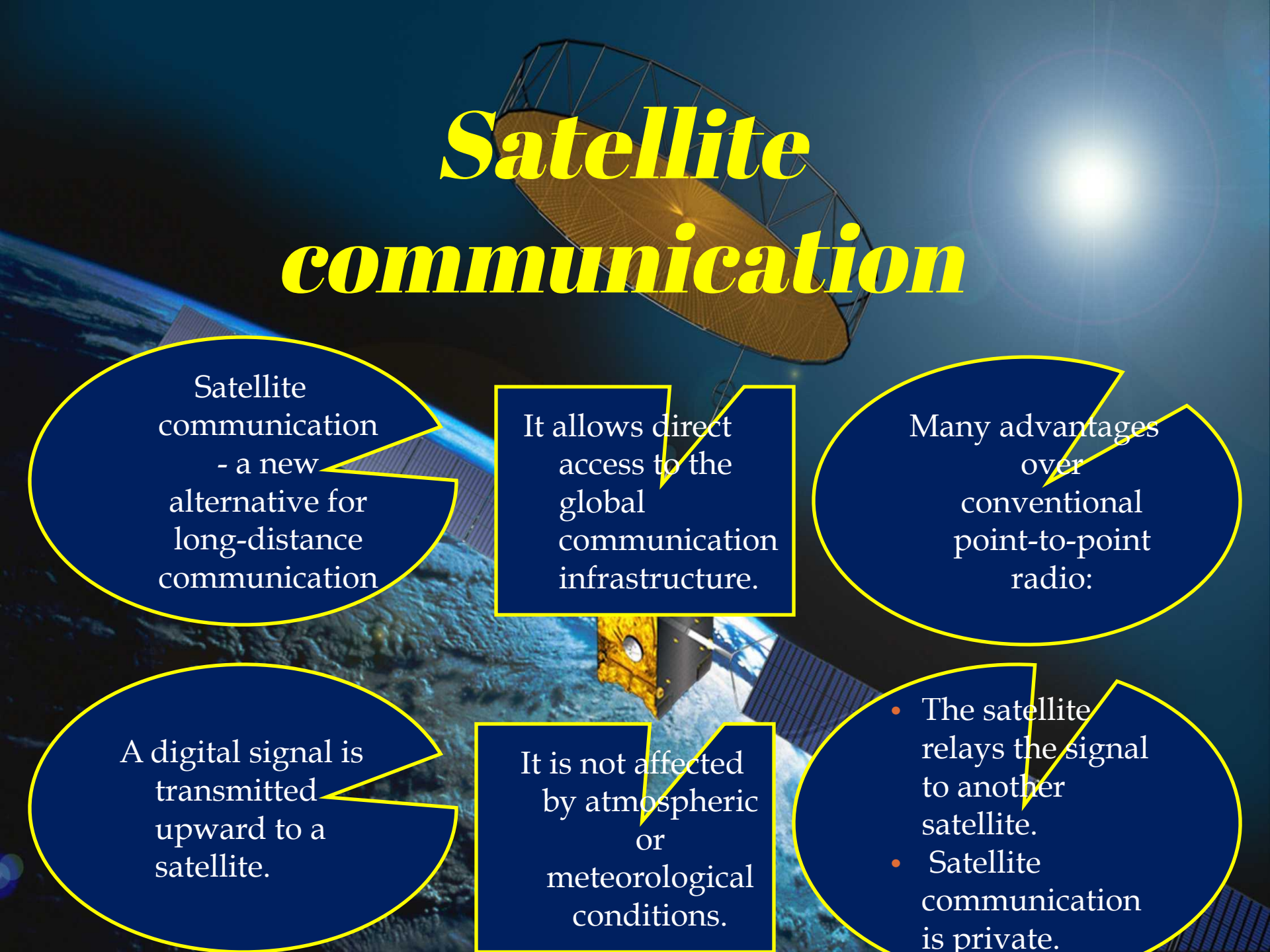
- Marine SSB (single side-band) radio - to communicate over very large distances.
- SSB has a greater range than VHF.
- It does not require a line of sight between stations.
- Transmitting on SSB requires a great deal of electricity .



Satellite communication



Satellite communication



Satellite communication - a new alternative for long-distance communication

It allows direct access to the global communication infrastructure.

Many advantages over conventional point-to-point radio:

A digital signal is transmitted upward to a satellite.

It is not affected by atmospheric or meteorological conditions.

- The satellite relays the signal to another satellite.
- Satellite communication is private.

Geosynchronous satellites

A person is sitting at a desk, looking at a laptop. In the background, there is a satellite dish and some other equipment. The scene is dimly lit, suggesting an indoor setting at night or in a dark room.

- Most satellites - in geosynchronous, or geostationary, orbits.
- Each satellite - at an altitude (22,300 miles or so)
- Its speed around the earth matches the earth's rotation.

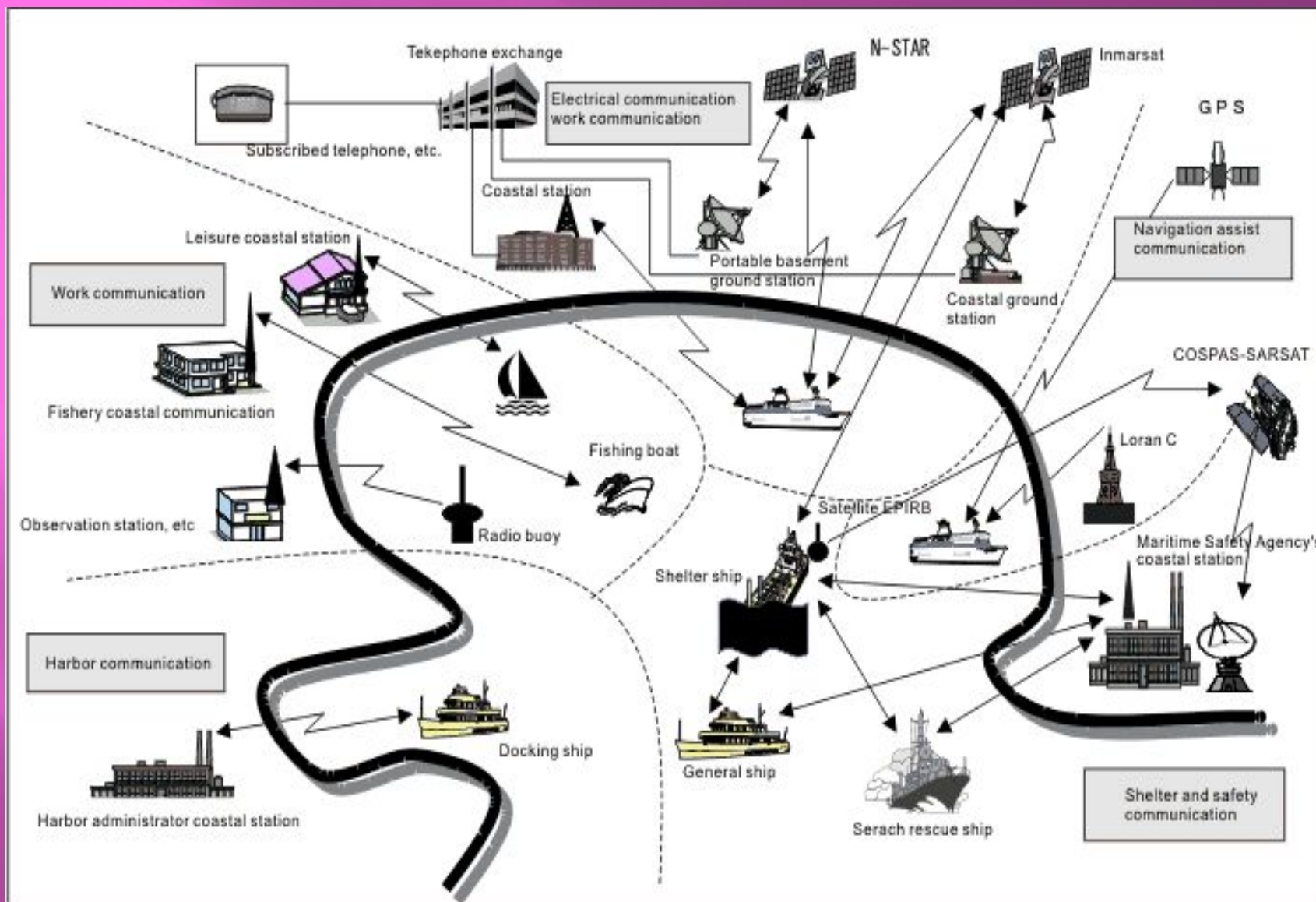
- Both the satellite and the surface of the Earth are rotating around the Earth's axis
- They are rotating at the same rate
- Satellite appears to stay in one place over the Equator.
- This simplifies signal transmission.

Inmarsat system



- **Inmarsat, or International Maritime Satellite - an international partnership of government and private entities representing 75 countries.**
- **Provide mobile satellite communication services to the world.**
- **Uses four of its own satellites**
- **Leases maritime communication capacity on several other satellites.**
- **All of the units are in geosynchronous orbits.**

Concept Diagram of Maritime Communications



Transmission of Letters and Numbers.

Letter	Code	Letter	Code
A	Alfa	N	November
B	Bravo	O	Oscar
C	Charlie	P	Papa
D	Delta	Q	Quebec
E	Echo	R	Romeo
F	Foxtrot	S	Sierra
G	Golf	T	Tango
H	Hotel	U	Uniform
I	India	V	Victor
J	Juliet	W	Whisky
K	Kilo	X	X-ray
L	Lima	Y	Yankee
M	Mike	Z	Zulu

The Figure Code

Figure	Code word
0	Nadazero
1	Unaone
2	Bissotwo
3	Terrathree
4	Kartefour
5	Pantafive
6	Soxisix
7	Setteseven
8	Oktoeight
9	Novenine
Full stop	Stop
Decimal point	Decimal

Questionnaire

1. What is the oldest method of remote communication?
2. How many International Code Flags are there?
3. What is any Morse Code message composed of?
4. What is the meaning of the message composed of three dots + three dashes + three dots?
5. What is the meaning of the abbreviation VHF? What are the disadvantages of VHF communication?
6. What are the two basic kinds of radios aboard ocean-going vessels?
7. What allows direct access to the global communication infrastructure?
8. Is satellite communication affected by atmospheric or meteorological conditions? Why?
9. What simplifies signal transmission to the geostationary satellites?
10. Do you happen to know the altitude of geostationary satellites? How high are they?

Questionnaire

11. What messages is Channel 16 reserved for?
12. Why should Channel 16 be permanently monitored?
13. May Channel 16 be used for routine messages?
14. When must the phonetic alphabet be used by a seafarer?
15. Do you happen to know the Figure Code? Can you state your year of birth using it?
16. Why are communications at sea so essential nowadays?
17. Between what responders can the communications be effected?
18. Can you name the simplest method of communication? Please, do it!
19. What is the primary condition for successful semafore communication?
20. What does each pennant represent in Flag Communication?

THANKS
FOR
YOUR
ATTENTION

