

CHAPTER 4

FOG SIGNALS

4.1 GENERAL

Fog signals are sound signals emitted by landmarks, beacons or light-vessels in order to notify their presence to vessels navigating in the vicinity.

Fog signals are identifiable by the character or rhythms of their sounds.

4.2 TYPES OF FOG SIGNAL EMITTERS

The most usual types of fog signal emitters are:

The *diaphone*: a compressed air apparatus, emitting a powerful high-pitched sound which terminates suddenly with a sharp lower sound.

The *horn*: a vibrating diaphragm worked by electricity or compressed air. It emits simultaneous sounds of different pitch, often very powerful, or a single steady tone or a tone which varies continuously in pitch.

The *siren*: a compressed air apparatus emitting a medium-powered sound, either high or low or a combination of both. The tone increases until it reaches its maximum power and then decreases.

The *nautophone*: an electro-magnetic sound oscillator emitting a high note (sharper, than the diaphone). The sound reaches its fullness instantly and maintains it until the end of the signal.

The *tyfon*: emits a note similar to the nautophone. Some tyfon are very powerful but emit a medium-pitched note similar to the fog signal of a vessel.

NOTE :

The nautophone and tyfon are no longer used and are henceforth classified with the fog horn.

The *whistle*: mostly used on pillar buoys; it is operated by wave action. The tone is rather low and irregular.

The *bell*: used on smaller buoys and also operated by wave action, producing a signal of irregular rhythm. A gong is sometimes used instead of a bell.

The whistle, bell, and gong may also be operated ashore. They are then worked by machinery, sounding a signal at regular intervals. This apparatus is seldom hand-operated.

The *reed*: worked by compressed air and emits a weak and rather high-pitched sound. It is particularly weak when hand-operated.

Cannon-shots, explosions, etc. are sometimes used as fog signals.

Figure 4.1 shows fog horns, sited near a harbour light.



Figure 4.1 - Fog horn
By courtesy : U.S. Coast Guard

4.3 CHARACTERISTICS OF FOG SIGNALS

Most fog signals are emitted in certain rhythms (characteristics) so that they may be easily identified. These characteristics and the abbreviations for the apparatus used are mentioned in lists of lights and on charts in a similar way to the indication of lights. The most important abbreviations referring to fog signals are covered in Nautical Chart Symbols, Abbreviations and terms, published by nearly all Hydrographic Services of the world. See e.g.: <http://www.nauticalchart.noaa.gov/mcd/chartno1.htm>

Examples of fog signals occurring in lists of lights are given in Plate III, Plate I, Nos 0002, 0018, 0020; Plate IV, No 15735, Plate VII, Nos. 16420, 16460, 16550, 16600.

Examples of fog signals as shown on charts are found in the various extracts, such as :

Figure 2.45 - Blankenberge : Bell

Figure 3.1 - Dungeness: Horn (3) 60s

Figure 3.2 - Zeebrugge: Bell

Figure 2.52 - Charleston Harbour entrance : Bell
Etc.

IMPORTANT REMARKS

1. Composite fog signals and Morse code fog signals are indicated in the same way as lights. Some light-buoys are already fitted with an automatic fog signal system.
2. When, on English charts, the period and number of strokes are given adjacent to the fog signal abbreviation for buoys, e.g. 'bell' or 'whistle', this means that the fog signal is emitted automatically and not by wave action.
3. As well as automatic fog apparatus, some light-buoys are fitted with a supplementary reserve emitter activated by waves. This is indicated by an abbreviation below the automatic fog signal.
Example: Horn (3) 30sec. Whis
4. The direction from which a fog signal may seem to come is not necessarily the true one. Even in normal atmospheric conditions, sound travels irregularly.
5. It is difficult to determine the distance of a fog signal from its audible power.
6. In some directions there are areas in which the fog signal is inaudible.
7. When a fog signal is a combination of high and low tones, one of the tones may be inaudible.
8. The direction from which a fog signal is heard can sometimes be completely erroneous.
9. It is always dangerous to navigate in narrow waters relying only on the sound of fog signals .
10. When in doubt, the guidance of fog signals should be checked by soundings or any other electronic aid to navigation.