MSM Academy

LIGHT FLASHERS

CHARACTERISTICS

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This article contains information mainly comprised on the IALA Guideline G1116. The scope is to provide a general overview of flashing lights, rhythms and considerations for its selection.

The selection of rytms for a floating AtoN is a straightforward process, guided by E-110, however, there are many options when selecting a character for a fixed AtoN. Navigational aspects must be considered on the first place, and after that, technical aspects should be considered, a second iteration of selection can be necessary.

Classic AtoN had a technical limitation in the achieving of complex flashing characters, luckily nowadays the majority of AtoNs have LED technology light sources and electronical flashers, adding infinite possibilities to the options provided by the flash control.

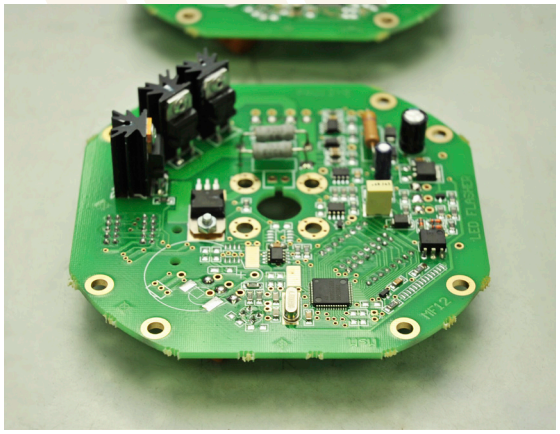
CONSIDERATIONS FOR PERIOD SELECTION

The main consideration for period selection should be location specific navigational requirements.

Shorter period and longer or more flashes can reduce greatly the identification time of an AtoN, therefore, must be used in restricted areas, high traffic zones or high-speed channels, where a faster identification is needed.

Under these hard navigational conditions, the eclipse length also must be limited under 8 seconds, as this improves greatly spatial awareness.

In less demanding areas, longer characters, shorter flasher and longer eclipse lenghts can be considered.



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CONSIDERATIONS FOR FLASH LENGTH SELECTION

Authorities should establish rates for his quick, very quick, and ultraquick flashes.

When a distinction between a short flash and a long flash is mandatory, the long flash should not be under 2 seconds, and the difference between them should not be under a 3 to 1 ratio.

FLASH SHAPE SELECTION

In classical AtoNs, flash shape is confined by technology, rotating optics cause Gaussian flash profiles, flashing incandescent light have a characteristic flash profile also.

However, modern flashing techniques and LED sources can provide rectangular flashes, that are usually ideal for high conspicuity and range.

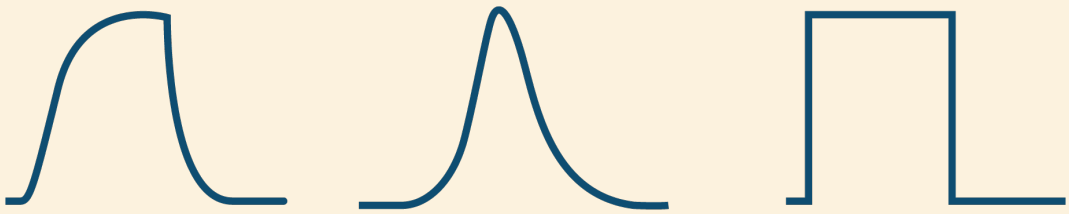

Ilustración 1. Typical flash profiles *(Incandescent, Gaussian and Rectangular)*

FLASHING SYNCHRONISATION

Synchronized and/or sequential provides useful augmentation/enhancement of conventional flashing lights, especially over background lighting. Additionally, synchronization can indicate that two or more lights are associated in some manner (a pair of leading lights, lateral buoys of the main channel or even a group of special marks around a danger zone). In last place, sequential lights can improve greatly position awareness within a fairway or any other AtoN system.

These techniques must be considered when working on complex AtoN system designs.

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