

# Uniflash®-II WIRELESS SYNCHRONIZATION SYSTEM

Channel navigation is made safer and simpler by controlling the flash relationship among aids to navigation lights. Most typically, this is done by direct wire connection of lights which then flash in unison. Many leading lines (range lights) are flashed in this manner. Oil production platforms also display synchronized lights to improve depth perception and to assist in delineating one platform from another. Where it is not possible to synchronize leading lines, the flash rhythms are assigned to provide an overlap in "on" time so the mariner will see both lights together. This usually requires an occulting light or fixed light with its much larger energy demand.

Recognition of buoy lights for a particular channel or channel segment is often a problem. They flash at random in a host of background lights including other buoy lights from other, nearby channels. Conditions may be particularly confused in complex harbors where several busy waterways converge.

Uniflash-II gives the possibility of prescribing the flash relationship of large numbers of lights. Without the use of wires, any number of flashing lights may be set to flash simultaneously or in any sequence.

Uniflash-II offers:

- An organized system of signals which are much more conspicuous and useable than a random flashing system of signals.
- More piloting cues as unison flashing or sequenced flashing lights improve depth perception and provide additional cues as to the effect of environmental forces on the set and drift of a vessel in transit.
- Potential for energy saving in not having to flash as large a lamp or flash the lamp as often to overcome background lighting.
- Elimination of power and synchronization wiring with solar powered, wireless synchronized platform obstruction lights.

In the past, the timing signals for the UNIFLASH system were generated by marine radio beacons. Uniflash-II relies on Global Positioning System (GPS) signals for synchronization of the signals. Due to GPS's worldwide coverage, there are no limitations on the numbers and locations of aids to navigation lights that can be sequenced or synchronized. **All the navigation lights in**

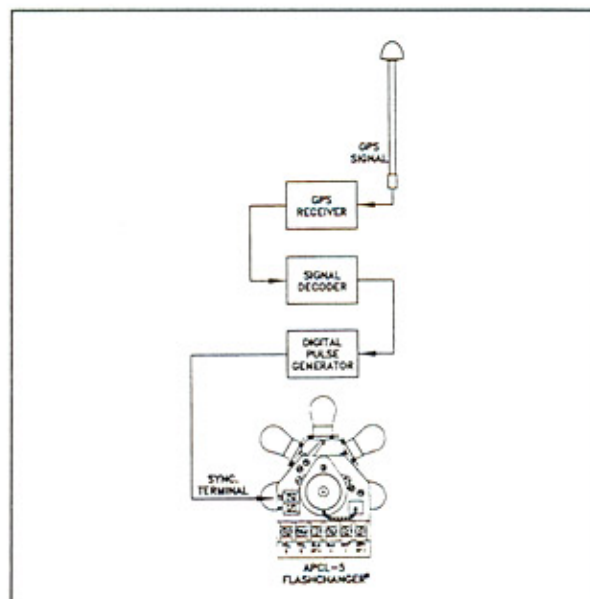
**an entire country could be flashed together!!!**

Uniflash-II circuitry processes the GPS signal and generates a synchronization pulse that resets the timing of an APCL-5 FLASHCHANGER®. Each preprogrammed flash rhythm in the APCL-5 may be synchronized with other lights. If any portion of the synchronizing circuitry should fail, the APCL-5 continues to operate the light (unsynchronized operation)

Lightweight, compact and energy efficient, the GLOBALNAV controller for the UNIFLASH-II system will fit in the base of a standard FA-249 lantern in the space normally occupied by a flasher. The GPS antenna is incorporated into the top structure of the buoy.

## Specifications

Synchronization Accuracy <10  $\mu$ seconds  
Power Supply 12 Volts DC  
Power Consumption <300 milliamps  
Visual Indicators of timing acquisition and synchronizing pulse.  
Programmable synchronizing period.  
Real Time Clock accurate to 10  $\mu$ seconds of UTC.

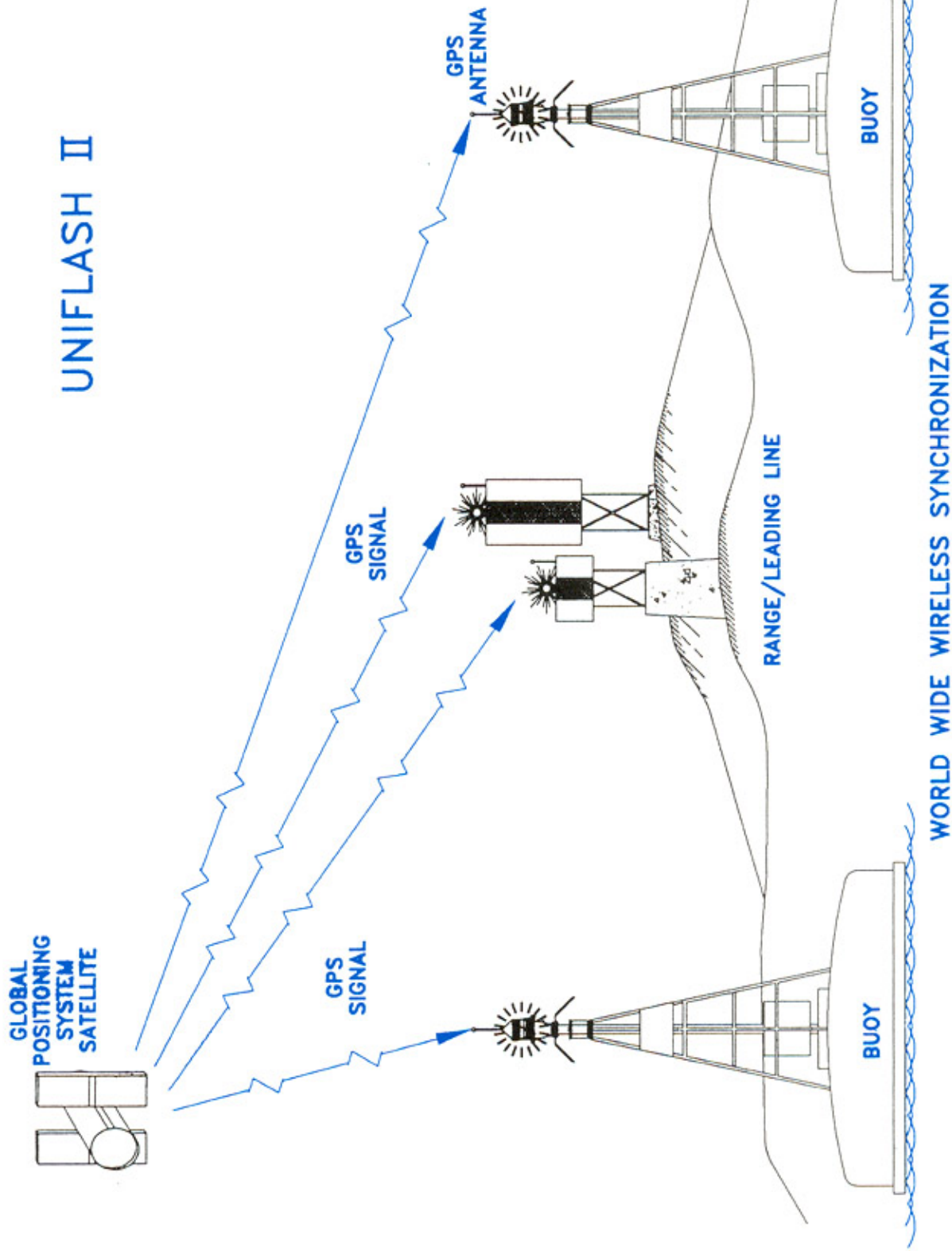


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Manufactured under patent NO. 3,787,867.

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# UNIFLASH II



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