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The title SYLEDIS is derived from "SYstem LEger de mesure de DISTances", a system manufactured in France by Sercel S.A. SYLEDIS is a multi-user, range/range or hyperbolic geometry, pulse navigation and positioning system utilising a mobile interrogator and two or more beacon stations at known fixed locations. The system determines distances from each fixed beacon station to the mobile unit by conversion of transmission time of an R.F.pulse at a given frequency into metres. The operating frequency for SYLEDIS is selected from the 420-450 Mhz frequency band. With its filter, 99% of the energy generated is within a 2.5 Mhz (+/- 1.25) bandwidth. Making use of pulse compression, the SYLEDIS can radiate a high energy at low peak power. For practical application, the SYLEDIS carrier frequency is phase modulated according to a (time limited) pseudo-random code, as follows:-

- number of elements of the pseudo-random series:

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$$N=2^{-1-127}$$

-interval between elements (short pulse equivalent):

$$T=0.52 \text{ sec.}$$

-digit/phase equivalent:

$$0/0,1/11$$

-duration of the pseudo-random series:

$$T=127 \times 0.52 = 66.666 \text{ microseconds}$$

-distance equivalent:

10km

-number of random series transmitted:

40,80 or 160

-total pulse length:

$$2.66, 5.33 \text{ or } 10.66 \text{ microseconds}$$