Pinger configuration for OTO'18 underwater robots competition

(AUV class)

2018/04/23

1)A pinger configuration for the survey mission in OTO'18 underwater robots competition

a. Signal period

The signal period will be set up at about 3 seconds (3000ms)*.

b. Frequency

The pinger's frequency will be selected 27.211 kHz* or 21.164 kHz* (the values listed in table 1). The 1st course side pinger frequency is 27.211 kHz and the 5th course side pinger frequency is 21.164 kHz.

c. Wave length

The number of the waves will be set to 50 waves* per a signal period.

*Notice: there might be a change of the settings by the signal condition.

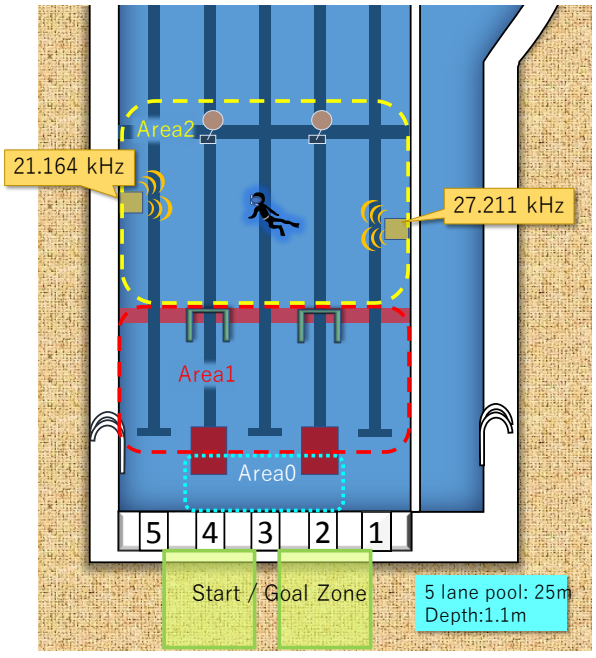

Fig. 1: The pinger's frequency setting in the competition course

2) Pinger specification

2- 1 Dimensions

Size: Φ45(max. 57)×L216(mm)

Weight: about 500(g)

Material: Nylon (blue)

Fig. 2: Pinger

2- 2 Signal specifications

a. Signal period setting

S (Signal period setting value): 1 – 65535 (2bytes)

D (time/div.): 31.25 ms

P (Signal period):

$$P = S * D \quad [\text{ms}]$$

ex. $P = 32 * 31.25 = 1000[\text{ms}]$

b. Frequency setting

A frequency setting is selectable from the table 1. Don't set the other value.

c. Signal length

A signal length can select by setting a number of waves from 1 to 65535 (2bytes.) Don’t select the number of the waves longer than the signal period (see fig. 3).

Table1: Selectable frequency list of the pinger device

Frequency (kHz)	Usage recommendation
28.369	△
27.211	○
26.144	△
23.392	△
22.599	△
21.858	○
21.164	○
20.513	○
19.900	○
19.324	○
18.779	○
18.265	○
17.778	○
17.316	○
16.878	○
16.461	○
16.064	○
15.686	○
15.326	○
14.981	○
14.652	○
14.337	○
14.035	○
13.746	○
13.468	△
13.201	△
12.945	△

○: good signal level, △: low output signal level or its be occurred a high frequency noise in use.

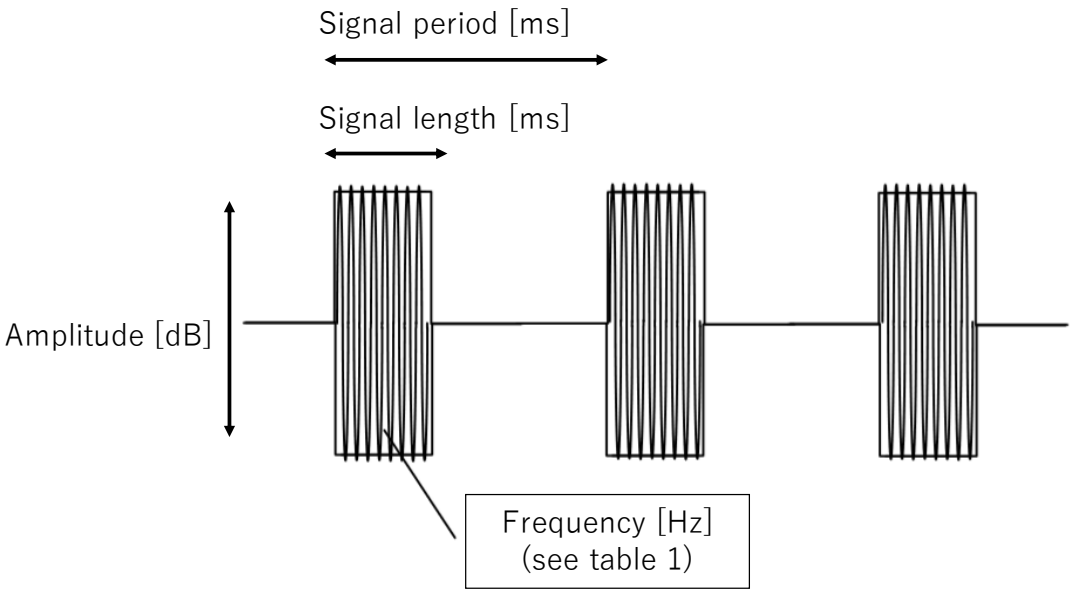

Fig. 3: Signal wave shape (pulse burst wave)