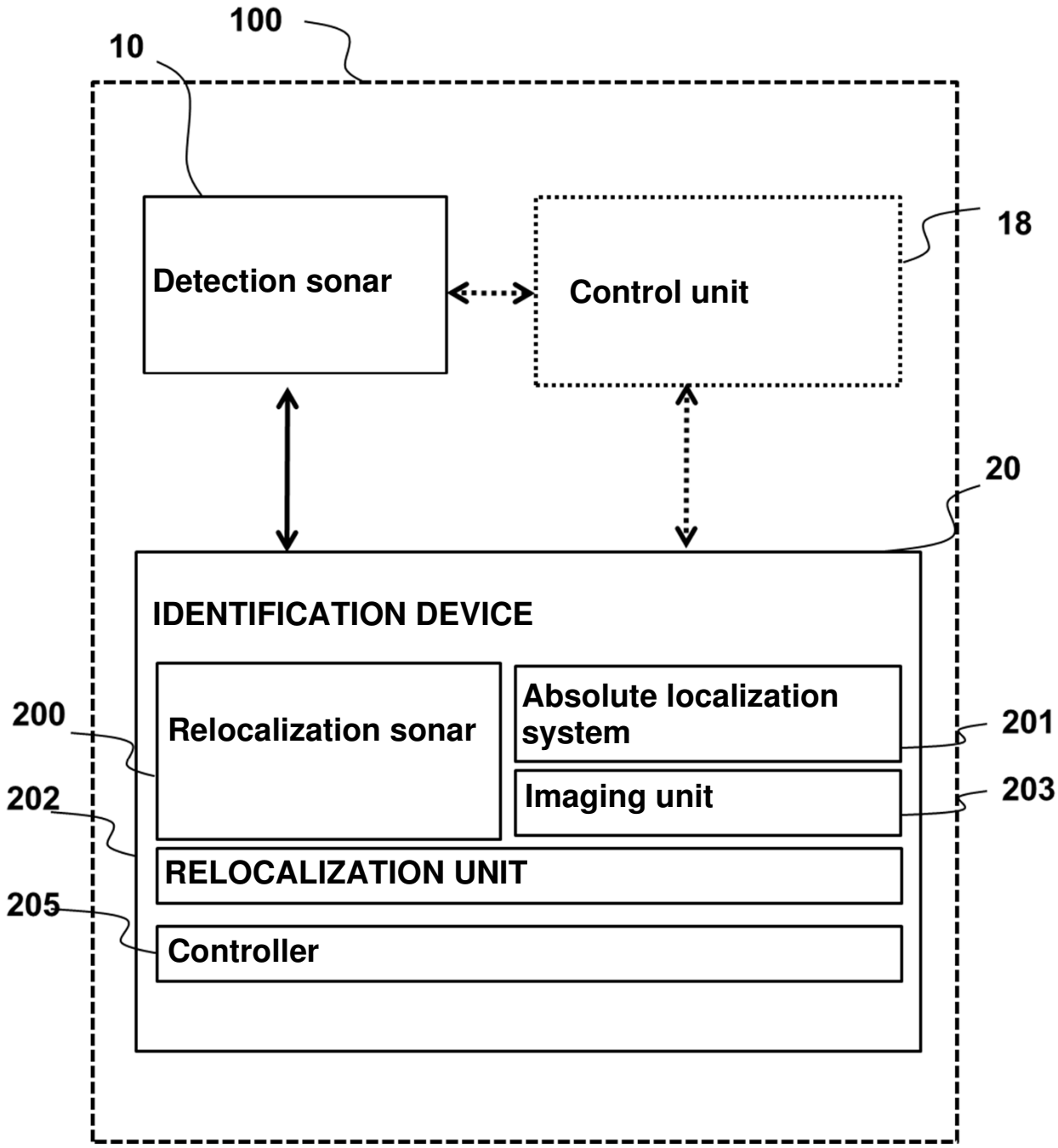

100
10
Detection sonar
Control unit
18
20
IDENTIFICATION DEVICE
200
Relocalization sonar
Absolute localization system
201
202
Imaging unit
203
RELOCALIZATION UNIT
205
Controller

FIG.1

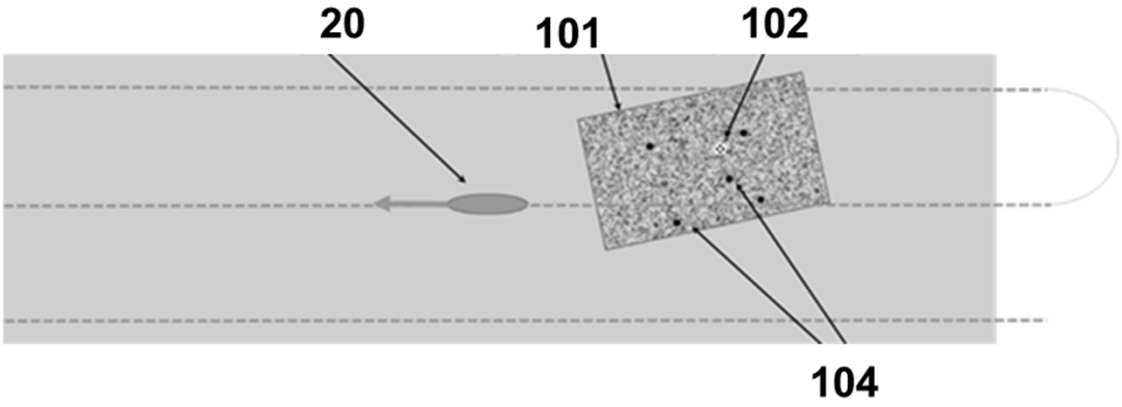


FIG.2

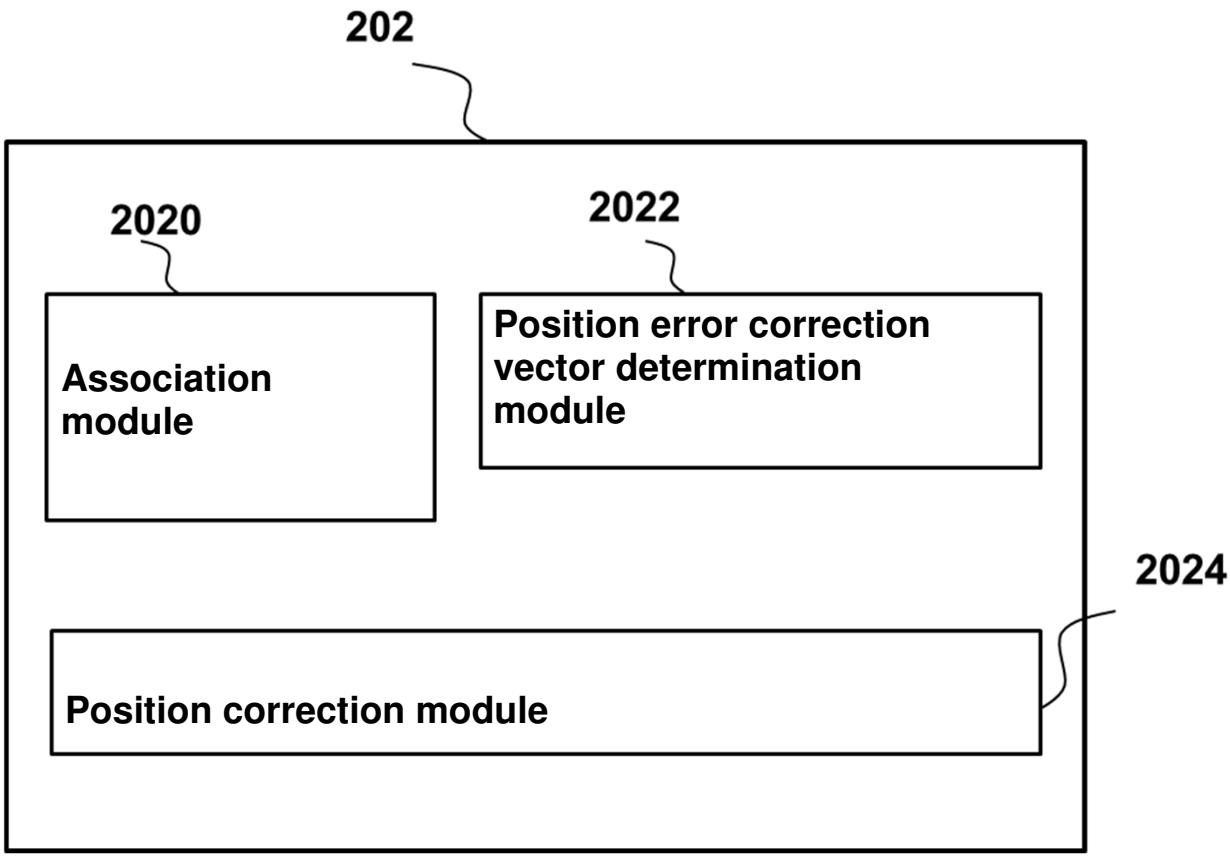

202
2020
2022
Association module
Position error correction vector determination module
2024
Position correction module

FIG.3

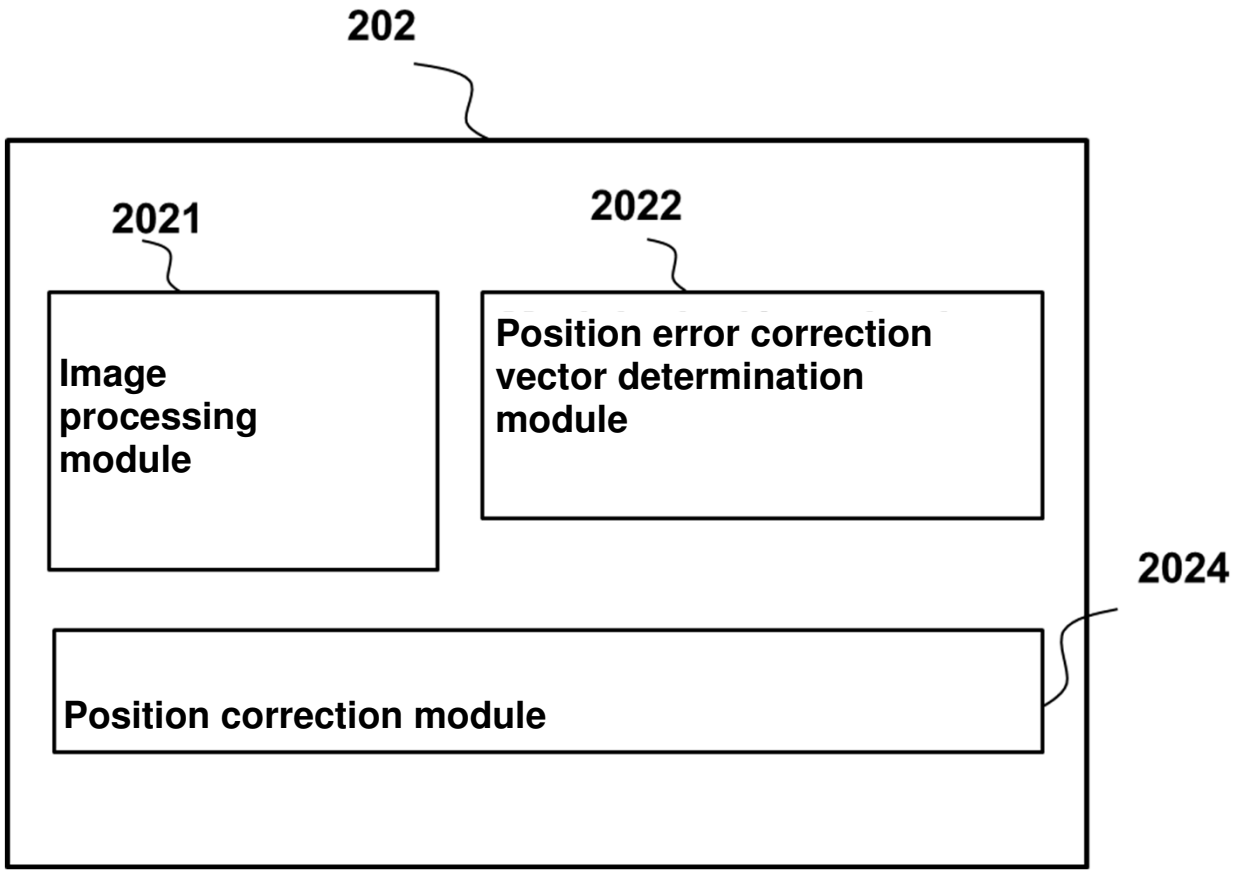

202
2021
2022
Image processing module
Position error correction vector determination module
2024
Position correction module

FIG.4

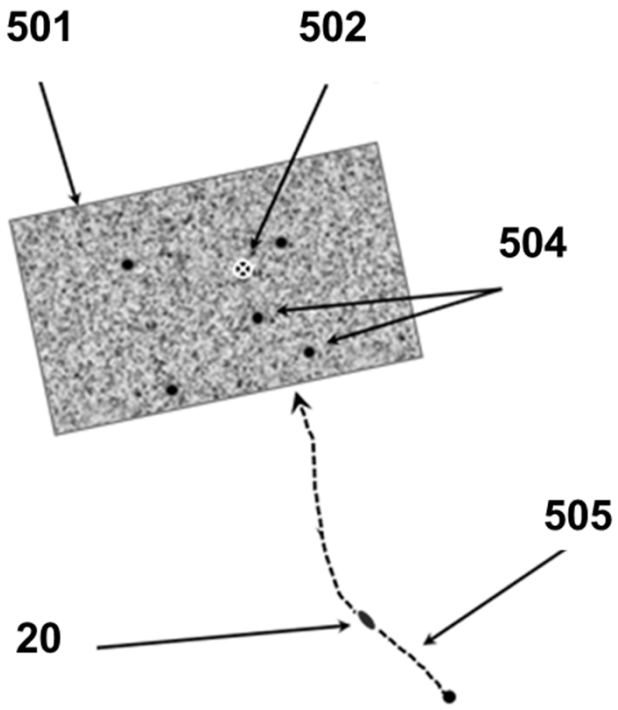


FIG.5

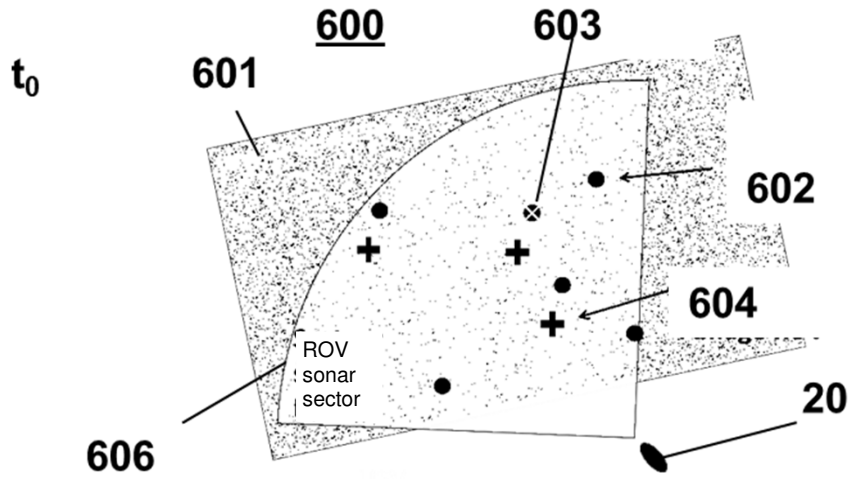


FIG.6

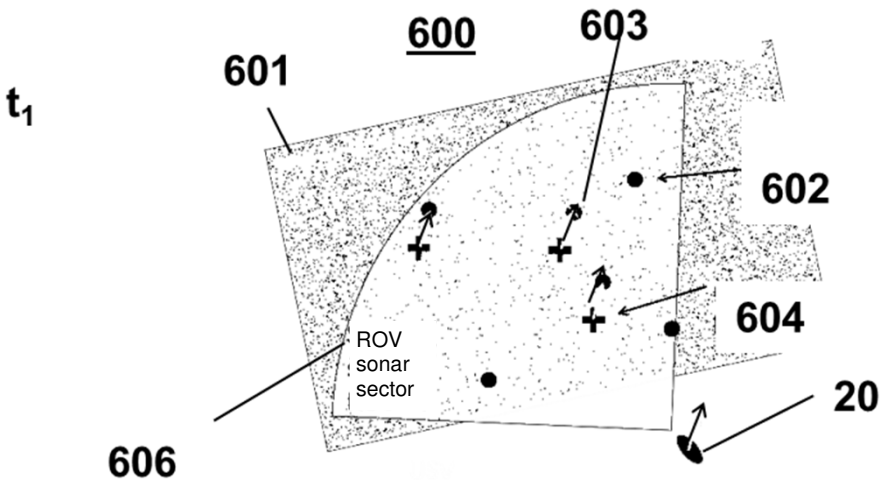


FIG.7

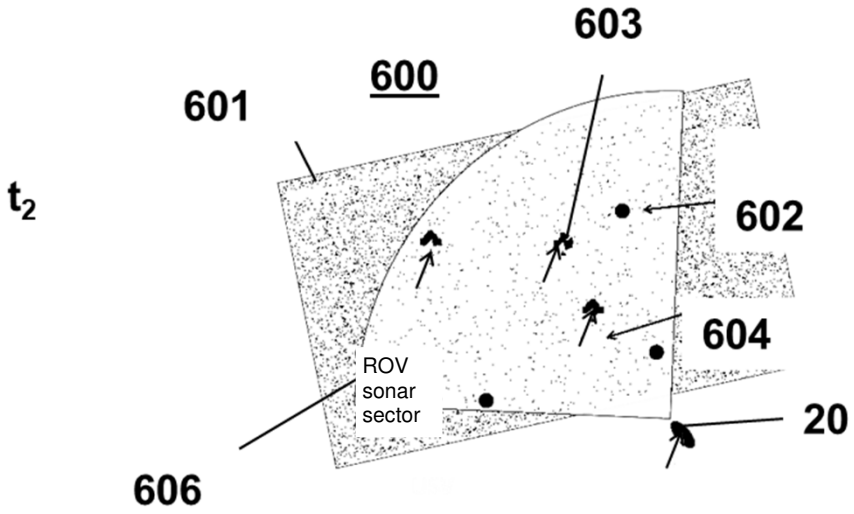


FIG.8

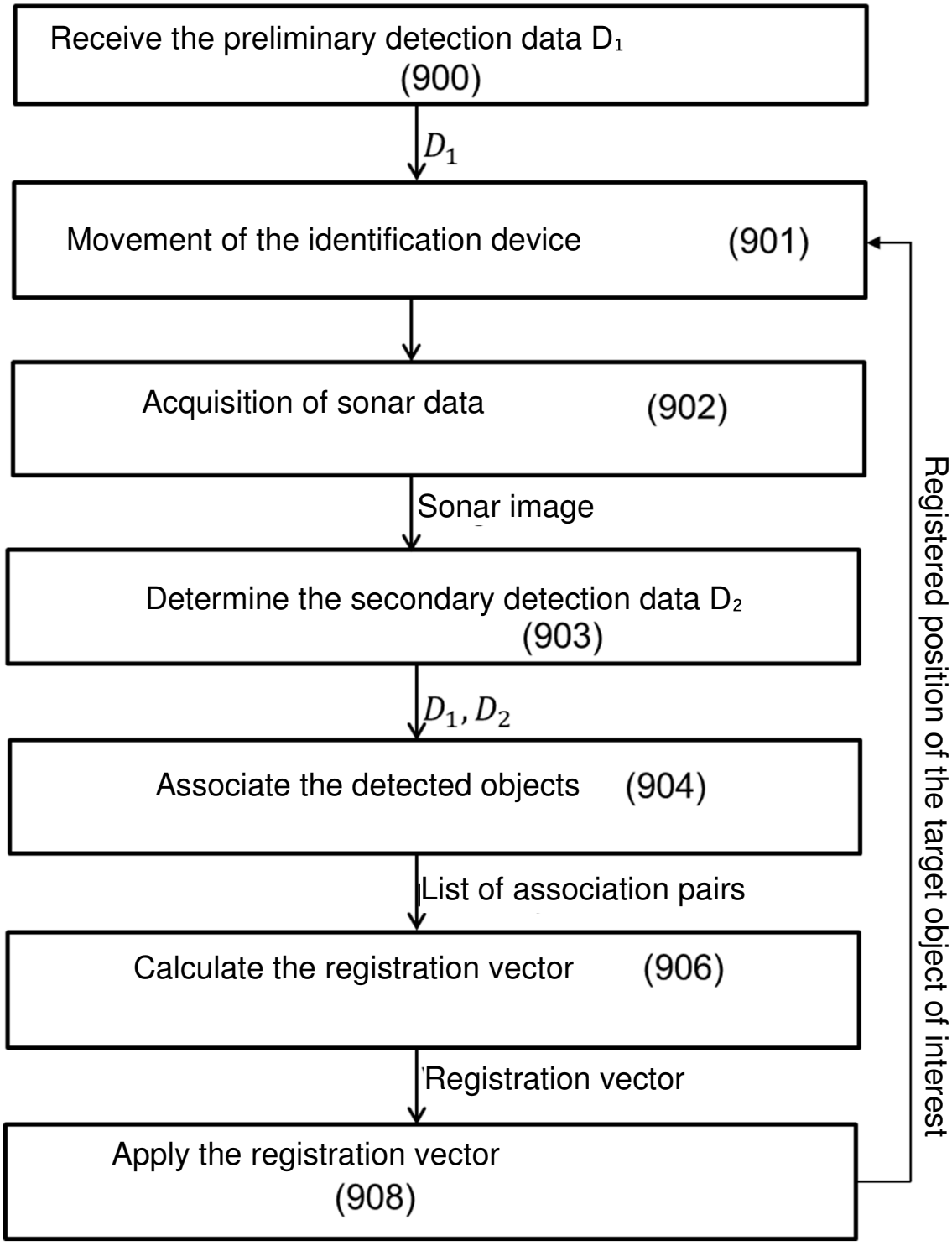

Receive the preliminary detection data D_1
(900)
D_1
Movement of the identification device (901)
Acquisition of sonar data (902)
Sonar image
Determine the secondary detection data D_2
(903)
D_1, D_2
Associate the detected objects (904)
List of association pairs
Calculate the registration vector (906)
Registration vector
Apply the registration vector
(908)
Registered position of the target object of interest

FIG.9

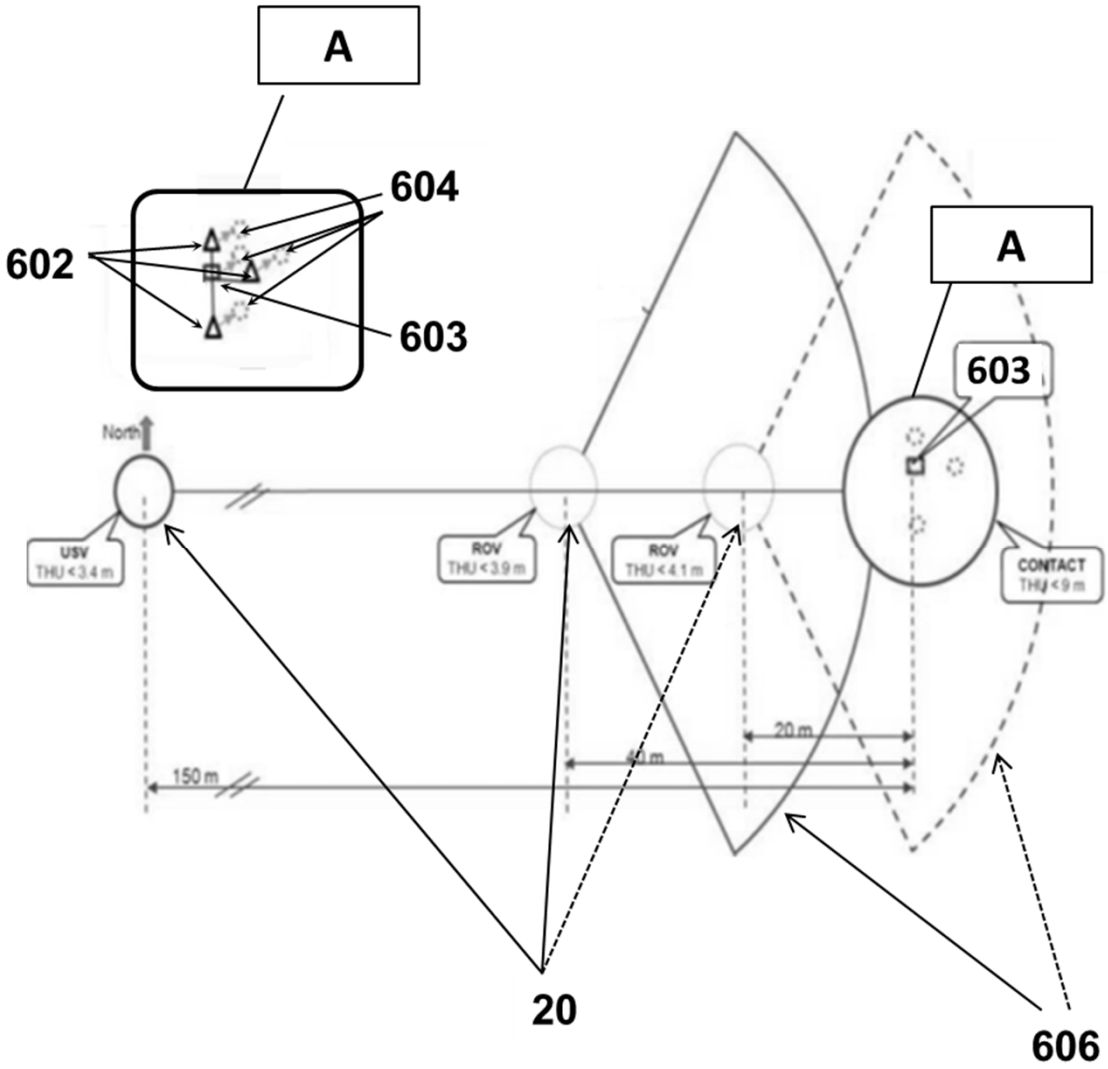

A
604
602
603
A
603
North
USV
THU < 3.4 m
ROV
THU < 3.9 m
ROV
THU < 4.1 m
CONTACT
THU < 9 m
20 m
40 m
150 m
20
606

FIG.10