

MINIATURE NAVIGATION COMPLEX

APPASSIONATA-E

The complex is intended to generate and output navigation data for marine navigation, shipborne weapons, technical aids and systems of the submarines

The navigation complex comprises:

- duplicated miniature inertial navigation system (INS)
- gyrocompass
- log and echosounder
- receivers of satellite and radio navigation systems
- magnetic compass
- EDIS
- navigation data processing and transmission system
- power supply system

Errors in the main navigation parameters:

- | | |
|---|-----------|
| ■ position for a 48 hour interval between corrections | 5 km |
| ■ course | 6 arc min |
| ■ speed through the water | 0.15 kt |
| ■ speed over the ground from the INS | 0.8 kt |
| ■ roll and pitch angles | 3 arc min |

High automation provides:

- control of the navigation complex by one operator from the operating navigator panel without continuous watch at the gyro room
- monitoring of the operational condition of the devices and automatic troubleshooting

The complex generates navigation data under the following operational conditions:

- | | |
|---------------------------------|---|
| ■ speed | up to 20 kt |
| ■ heave | up to 3 m/s |
| ■ circulation with angular rate | up to 3°/s |
| ■ roll | with an amplitude up to 20° and a 7–10 s period |
| ■ pitch | with an amplitude 5° and a 7–12 s period |
| ■ long-duration trim | up to 6° |
| ■ total angle of roll | up to 35° |
| ■ total angle of pitch | up to 25° |



INS



Gyrocompass

The navigation complex includes state-of-the-art miniature navigation systems



EDIS



Satellite navigation system receiver-indicator

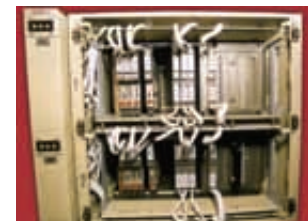
The navigation complex provides continuous operation during 2,500 h with probability $P \geq 0.96$



Transceiver of echo sounder channel of log

Power consumption – 4.5 kW.

Power supply from the ship mains:
- DC 175-320 V
- AC 220 V 50 Hz
(provision is made for redundancy)



Digital computer

The special simulator is available to train and maintain practical skills in operating the navigation complex. It can be supplied by a special order

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