Product Description

The System/7 Maritime Application performs up to five programmed functions simultaneously making the navigation of large ships safer and more efficient. The following program functions are available:

- Collision assessment
- Position fixing
- Adaptive auto pilot
- Route planning
- Route tracking

The hardware involved to perform the Maritime Applications programs consists of the following modules:

- 5010E Processor Module
- 5022 Disk Storage Module
- 5090 N01 Radar Navigation Interface Module (RNIM)

The 5026 C03 Enclosure has been modified to enhance the ability of the enclosure to withstand heavy vibrations and extended tilting. The 5090 N01 RNIM provides all the necessary interfaces with external OEM equipment possible to attach to (i.e., radar, gyro, speed log, omega navigation receiver, satellite navigation receiver, decca navigation equipment and auto pilot) as well as IBM 5090 N02, the Bridge Console.

The following I/O units are included in the application:

- 5028 Operator Station
- 5090 N02 Bridge Console

The 5090 N02 Bridge Console consists of input and output function units and control function unit. The box will be mounted on the bridge of the ship close to other navigation instrumentation.

The input functions are performed by means of keys and switches, the output will be presented on the data display screen, and on the PPI (i.e., a radar echo image display - Planned Position Indicator). The control functions are included to control the remotely operated elements of the system.

To address also the Serviceability aspect with this highly mobile system the following maintenance approach and maintenance features have been developed:

At sea the customer crew can use the especially designed maintenance package. This package consists of fault locating diagnostic programs contained on a cassette tape and a pictorial maintenance manual.

By means of these aids the crew can diagnose and isolate malfunctions within the S/7 modules as well as the Bridge Console. A spares locker RPQ has been made available to the customer in order to provide spare parts onboard the ship and thus make logic card replacements possible.

In the service ports the IBM CE's will use:
- CE Diagnostic Programs
- TM Manuals
- Maintenance ALDS
- Diagnostic Wrap Card
- S/7 CE tools and test equipment

The overall power of the maintenance packages is enhanced by the logging feature, which allows for proper maintenance planning.

Technology

The logic of the 5090 N01 and the 5090 N02 is implemented in both new and "old" technologies. Thus MST 1 SLT and TTL (Transistor Transistor Logic) together with FET (Field Effect Transistor) buffers will be found within the hardware. By use of this mix an optimized dense functional packaging was achieved.

The necessary power supplies have been designed by use of TSR (Transistor Switching Rectifier) units.

RPQ's

The following RPQ's are part of this Maritime Application:

- D08226 Ruggedized 5026 C03
- D08230 Ruggedized 5010
- D08231 Ruggedized Sensor Module
- D08233 Ruggedized Disk Storage 5022
- D08234 Ruggedized Operator Station 5028
The 5026 C03 Enclosure has been modified to enhance the ability of the enclosure to withstand heavy vibrations and extended tilting. The 5090 N01 RNIM provides all the necessary interfaces with external OEM equipment possible to attach to (i.e., radar, gyro, speed log, omega navigation receiver, satellite navigation receiver, decca navigation equipment and auto pilot) as well as IBM 5090 N02, the Bridge Console.

The following I/O units are included in the application:

- 5028 Operator Station
- 5090 N02 Bridge Console

The 5090 N02 Bridge Console consists of input and output function units and control function unit. The box will be mounted on the bridge of the ship close to other navigation instrumentation.

The input functions are performed by means of keys and switches, the output will be presented on the data display screen, and on the PPI (i.e., a radar echo image display - Planned Position Indicator). The control functions are included to control the remotely installed S/7 and to control the operation of Bridge Console itself.

To address also the Serviceability aspect with this highly mobile system the following maintenance approach and maintenance features have been developed:

At sea the customer crew can use the especially designed maintenance package. This package consists of fault locating diagnostic programs contained on a cassette tape and a pictorial maintenance manual.

By means of these aids the crew can diagnose and isolate malfunctions within the S/7 modules as well as the Bridge Console. A spares locker RPQ has been made available to the customer in order to provide spare parts onboard the ship and thus make logic card replacements possible.

In the service ports the IBM CEs will use:

- CE Diagnostic Programs
- TM Manuals
- Maintenance ALDs
- Diagnostic Wrap Card
- S/7 CE tools and test equipment

The overall power of the maintenance packages is enhanced by the logging feature, which is aimed especially towards intermittent failures.

**Programming**

The application program is programming RPQ (PRPQ) with service class b modified. On request, DP customer engineering, if available and for a charge, will assist the customer in (1) preparing APAR's for Submission to an IBM central programming service location and (2) if the licensed program is inoperable, applying a PTF which has been supplied directly to the customer from the central location. The CE should do problem determination but no attempt should be made to diagnose a program problem. DPCE should not patch or in any way alter the PRPQ.

**Technology**

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**RPQ's**

The following RPQ's are part of this Maritime Application:

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- D08230 Ruggedized 5010
- D08231 Ruggedized Sensor Module
- D08233 Ruggedized Disk Storage 5022
- D08234 Ruggedized Operator Station 5028
- D08235 Remote Power & Restart
- D08380 RNIM Module Basic
- D08381 Radar Intf Adapter 1
- D08382 Gyro Compass Adapt 1
- D08383 RNIM Expansion
- D08385 Omega Nav. Rec Adapter
- D08386 Satellite Nav. Rcv Adapter
- D08388 DECCA Navigator Adapter
- D08384 Speed Log Adapter
- D08387 Steering Interface Adapter
- D08379 Bridge Console
- D08236 Maritime Spares Locker
- P82010 MASBridge System 5799 AJQ

**Career Path**

This application will be serviced by Product Support Trained DS CE's.