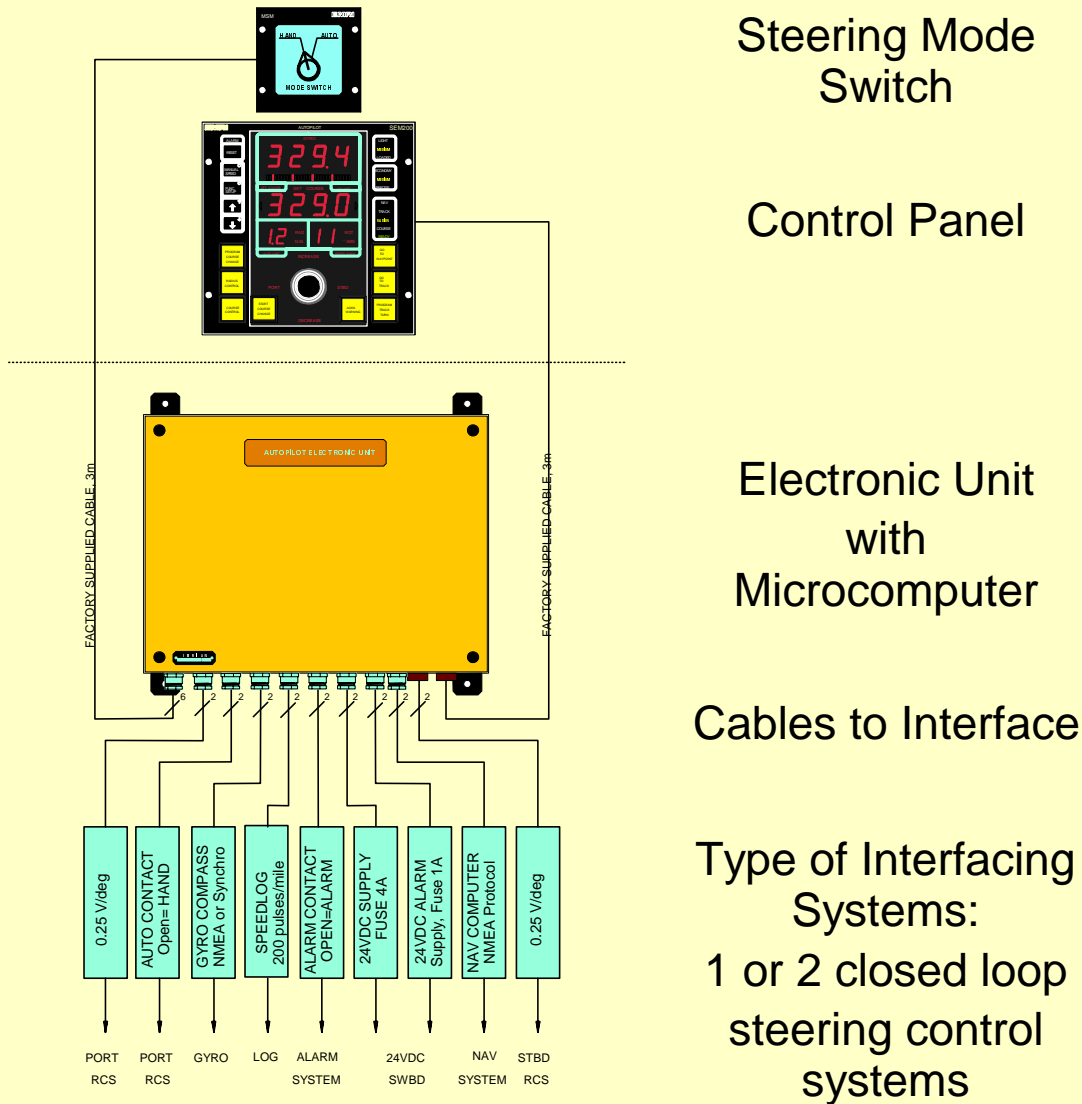


AUTOPILOTS



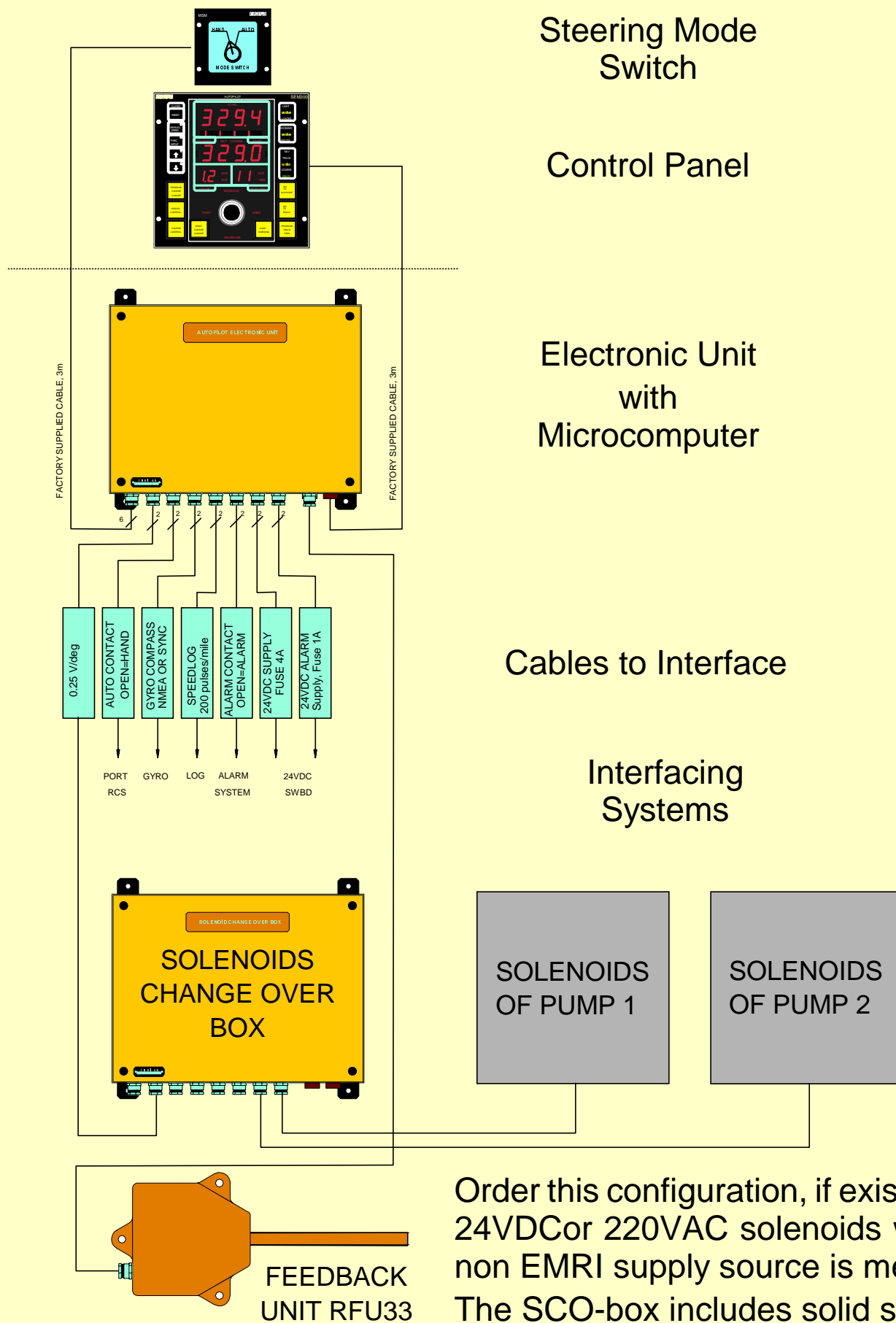
Probably the best ...

EMRI Micropilot type SEM200



- ▶ Low cost adaptive autopilot
- ▶ Preset from factory, simple sea trial setup
- ▶ Easy installation
- ▶ Easy service
- ▶ Gyro interface: NMEA (preferred) or 1:1 speed synchro, 115VAC, 400 Hz
- ▶ Speed log interface: 200 pulses pr mile or NMEA
- ▶ Heading changes with controlled radius of turn
- ▶ Heading set device is either a Joystick or a turning knob
- ▶ Meets IMO's recommendations, tested to IEC 945, Wheelmarked.
- ▶ Advanced navigation computer interface available
- ▶ Controls single or multiple rudders, propellers or waterjets

EMRI Micropilot type SEM200



Order this configuration, if existing 24VDC or 220VAC solenoids with non EMRI supply source is met. The SCO-box includes solid state relays.

EMRI AUTOPILOTS

List of Features:

- Bumpless Transfer & self-synchronizing Heading
- Homework done. Preset to basic ship data.
- Easy to SET UP, adapts to ship's speed
- Easy to install. 2 Units, 1 Factory supplied cable.
- RADIUS control on top of ISO standard requirements
- IMMEDIATE or PROGRAMMED heading change modes
- ADVANCED Navigation Computer Interface. (Option).
 - WAYPOINT mode
 - TRACK mode
 - TRACK TURN mode
- Safe Hard Weather Handling capabilities.
- Qualified factory support.
 - Also to difficult steering gear interfaces.

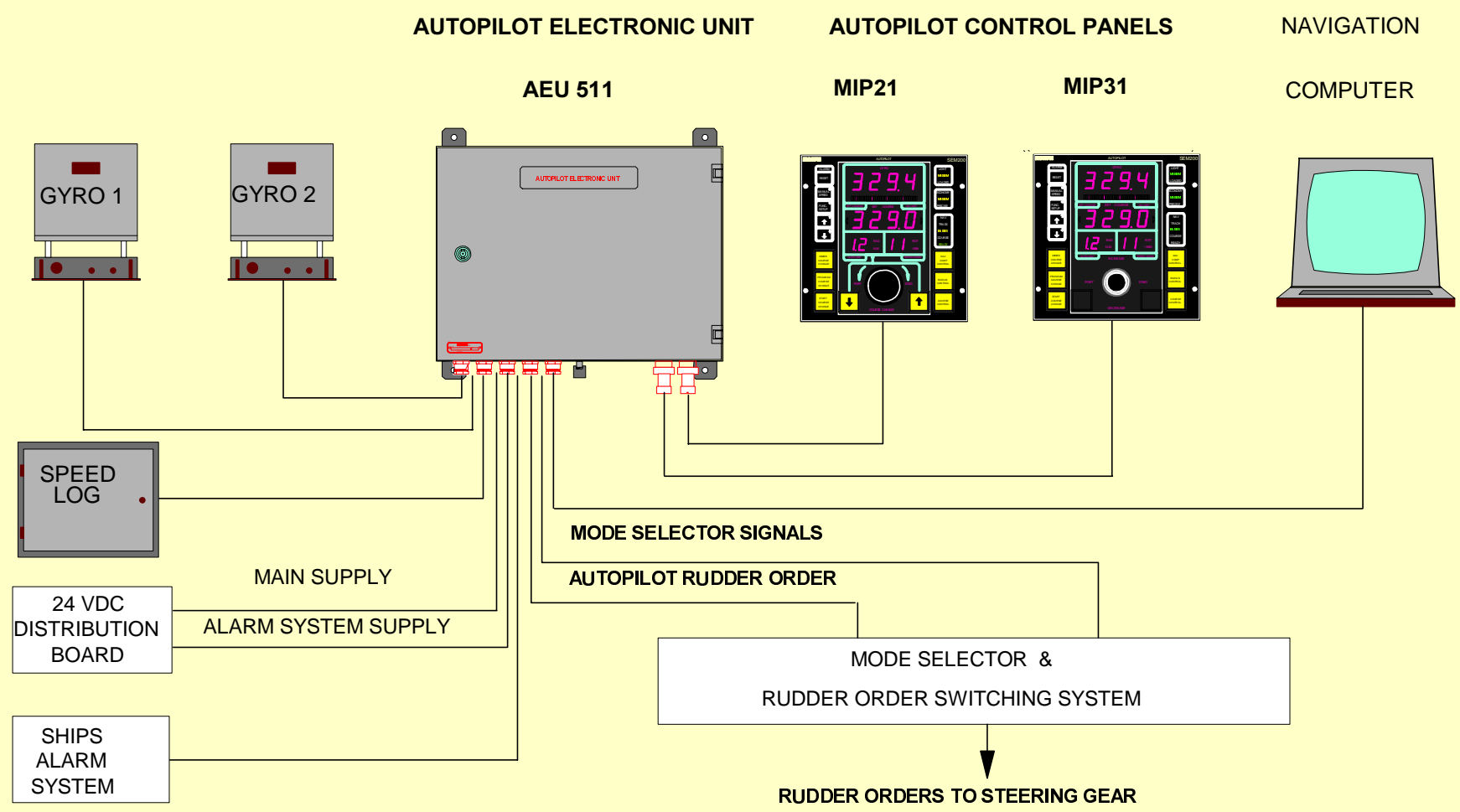
How Adaptive ?

- The SEM200 autopilot is fully adaptive with the following limitations
 - The operator can select loading condition as:
 - LIGHT
 - MEDIUM
 - LOADED
 - The operator can select steering performance as:
 - ECONOMY
 - MEDIUM
 - PRECISE
 - In case of lost speed signal the operator must:
 - Select MANUAL SPEED and enter an estimated speed value
 - In case the operator disagrees with the adaptive rudder limitation, the operator can:
 - Override the computer and increase or decrease with the joystick

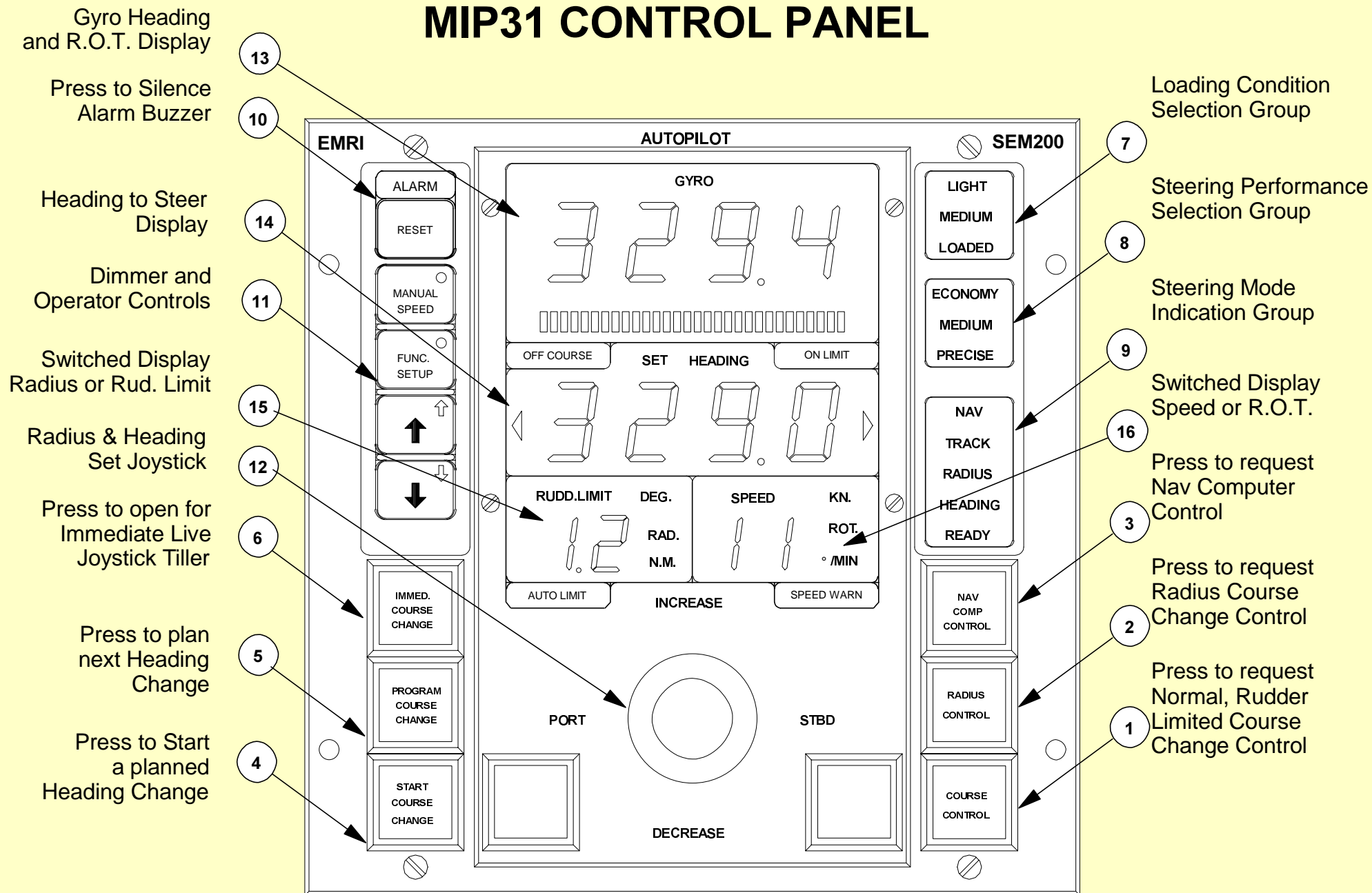
TECHNICAL DETAILS

- INTERFACE:
- GYRO: 1:1 speed synchro or NMEA 0183; 2 inputs
- SPEED: 200 pulses/mile or NMEA
- NAV.COMPUTER: NMEA
- Dry Contacts for alarm
- Steering Gear: Analog:
 - ▶ +/-10V rudder order
- Steering Gear: Bang-Bang:
 - ▶ PORT/STBD Steering contacts
 - ▶ Rudder angle feedback, RFU33
- POWER:
 - ▶ MAIN: 24VDC, max 3A
 - ▶ ALARM: 24VDC, max 0.1A
- ENVIRONMENTS:
 - ▶ Tested to IEC945, BSH approved.
- MICROCOMPUTER:
 - ▶ 1 in each unit, Motorola 68332
 - ▶ FLASH PROM storage
 - ▶ Programmed in "C".
- TECHNICAL INTERFACE:
- Level 0: (Navigators)
 - ▶ Front panel push-buttons
- Level 1: (Engineers or navigators)
 - ▶ Internal (AEU-BOX) DIP-switches
- Level 2: (Technicians)
 - ▶ Serial port (RS232) of portable PC
 - ▶ Using a standard terminal program or a communications program
- Level 3: (Certified technicians)
 - ▶ Parallel Port of portable PC to download basic software.

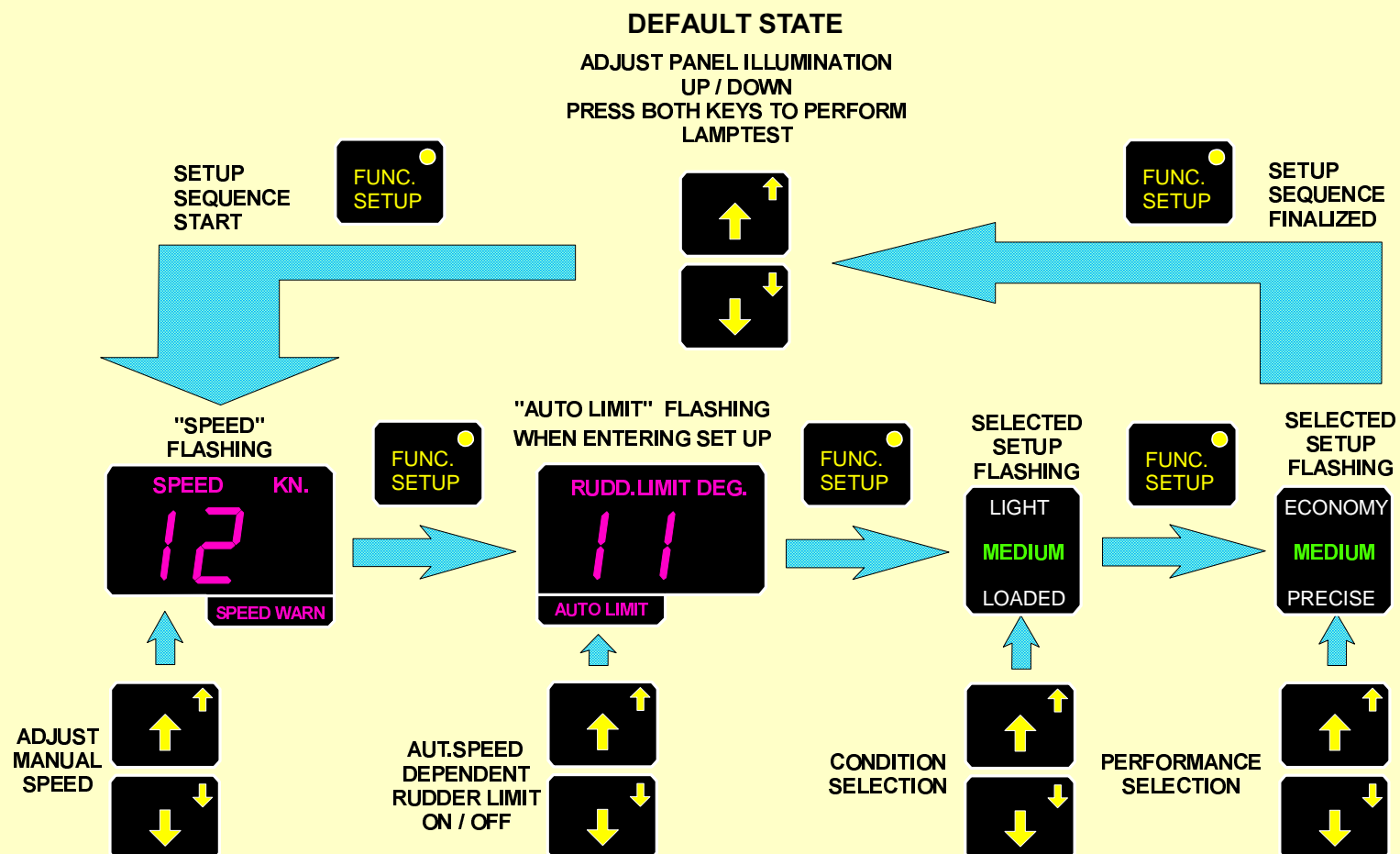
EMRI AUTOPILOT SYSTEM



MIP31 CONTROL PANEL



USER SETUP GROUP



- THE MANUAL SPEED ADJUST IS ONLY A PART OF THE SETUP SEQUENCE IF MANUAL SPEED IS SELECTED.
- THE AUTO LIMIT ON / OFF SELECTION IS ONLY A PART OF THE SETUP SEQUENCE IF IN COURSE CONTROL MODE WHERE THE RUDDER LIMIT IS AUTOMATICALLY SELECTED.



- A small, Danish Business
- Established in 1972
- Share capital: DKK 1 Mill.
- Owned by EMRI Holding ApS
- EMRI Holding ApS: Owned by J.C.Nortoft Thomsen
- EMRI A/S employs about 24 persons
- Annual sales: About DKK 27 to 29 Mill. (2000/2001)
- Accumulated, fixed assets: DKK 10 Mill.
- Official, own capital value: DKK 9.5 Mill.
- Maintains production of 500 products
- Invests DKK 2 Mill. pr year in development

EMRI PRODUCTS

- Autopilots & Track Control Systems
- Joystick/DP Systems, ARC-net based, PC controlled
- Steering Gear Servo Systems
- Steering Control Systems, PLC based
- Rudder Indicator Systems
- Subcontracted Items for Propeller Control
- Custom designed Bridge Instrumentation
- Bridge Control Components for OEM use.

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