

# NAVITRON SYSTEMS LTD

## NT777 SMALL VESSEL AUTOPILOT

Purpose developed for small professional vessel use spanning workboats, pilot and patrol craft, fishing vessels and motor yachts to 25m LOA, the NT777 model is the first of a new digital Autopilot generation designed and manufactured by Navitron Systems Ltd.

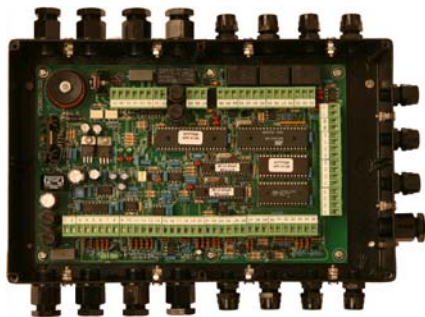
Accordingly, the NT777 Autopilot System provides Navitron steering expertise in a robust and compact package with the following standard features:-



- Dual NMEA Heading Inputs
- Mag Sensor Coil Heading Input.
- Multi Waypoint Track Steering
- Multiple Control Unit Options
- Integral Off Course Alarm
- Integral Watch Alarm
- Custom Turn & Dodge functions
- NMEA & Furuno Heading Outputs
- 11-40Vdc Power Supply
- 11-40Vdc/5A rated solid state switch Outputs to Solenoids

*Model NT777 Autopilot Control Unit (192 x 120 x 62.4mm)*

Fully equipped yet simple to operate- and suitable for hull forms from conventional displacement to fast planing vessels - the NT777 Autopilot System can support a maximum of 3 Control Units which connect to a central Distribution Unit.



*Model NT777 Distribution Unit (270 x 175 x 66mm)*

### Optional Equipment Input/Outputs:-

These functions are available from the standard Distribution Unit and allow a range of equipment and services to be added which include:-

- Rudder Angle Indicators
- Analogue and Digital Heading Repeaters
- NMEA Heading Outputs (Radar etc.)
- Power Steer Controls
- Universal Relay Box

Combined with full PID intelligence, auto rudder stability, Auto Trim (APH), integral Alarm & Reset functions, the NT777 is equipped for precision performance and reliability.

The LCD display presentation mode can be positive or negative as selected at installation. Automatic display graphic change will occur when Track Steering Mode is selected and includes regular (18 sec.) performance and source data updates.

Suitable for console or bracket mounting, the NT777 Control Unit can be externally located and the overall system is

normally supplied complete with Heading Sensor Coil and Rudder Reference Unit for installation to solenoid hydraulic systems (11-40Vdc/5A max).

Alternative Distribution Units may also be employed to provide  $\pm 10\text{Vdc}/4\text{-}20\text{mA}$  outputs for analogue steering machines.



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# NT777Outline Specifications

## NT777 Autopilot Input/Output Specifications

### Inputs: -

|                      |          |       |
|----------------------|----------|-------|
| Supply Voltage Range | 11-40Vdc |       |
| Power Consumption    | 12V      | 24V   |
| Off                  | 4.2W     | 4.3W  |
| Standby              | 4.6W     | 4.8W  |
| On                   | 5.1W     | 5.3W  |
| Illumination (max)   | +1.5W    | +1.5W |

### Mag Heading Input Ports

|   |                                      |
|---|--------------------------------------|
| Navitron Heading Sensor Coil mounted above/below Existing Mag Compass               | Coil type HSC1 or HSC2               |
| Resolution  | 0.25°                                |
| Dual NMEA 0183 Heading Sentences from Electronic Compasses etc. (Priority as shown) | XX HDM<br>XX HDG<br>XX HCC<br>XX HDT |
| Resolution  | 0.1°                                 |

### Cross Track Error Signal Input (GPS etc)

|                          |                                      |
|--------------------------|--------------------------------------|
| NMEA 0183 Sentence types | XX APA<br>XX APB<br>XX RMB<br>XX XTE |
| NMEA 0180                | (CTE only)                           |

### Heading to Steer Track Data (GPS etc.)

|                          |                            |
|--------------------------|----------------------------|
| NMEA 0183 Sentence types | XX HTC<br>XX HSC<br>XX APB |
|--------------------------|----------------------------|

|                             |               |
|-----------------------------|---------------|
| Operating Temperature Range | -20 to +60 °C |
|-----------------------------|---------------|

### Operator Controls

|  |
|--|
| Course Selector (rotary)               |
| Yaw (keypad + rotary)                  |
| Rudder (keypad + rotary)               |
| Counter Rudder (keypad + rotary)       |
| Autopilot Mode (Off/Standby & On keys) |
| Track (keypad)                         |
| Autotrim (keypad)                      |
| Illumination (rotary)                  |

### Unit Weights

|                         |       |
|-------------------------|-------|
| NT777 Control Unit      | 1.2kg |
| NT777 Distribution Unit | 1.5kg |

### Outputs: -

#### NMEA 0183 (Isolated RS422)

|   |                                |  |                    |
|---|--------------------------------|--|--------------------|
| Update Rate                             | Selectable @ 1Hz, 11Hz or 22Hz |  |                    |
| Sentence types (Mag/Gyro v Update Rate) | Hz                             | Mag                                      | Gyro               |
|   | 1                              | \$HCHDG<br>\$HCHCC<br>\$APHDG<br>\$APHCC | \$HEHDT<br>\$AGHDT |
|   | 11                             | \$HCHDG<br>\$HCHDM                       | \$HEHDT            |
|   | 22                             | \$HCHDM                                  | \$HEHDT            |
| Resolution                              | 0.1°                           |  |                    |

#### Solenoid Switching

|            |                           |
|------------|---------------------------|
| Polarity   | Selectable Common +VE/-VE |
| Max Rating | 5A @ 40Vdc                |

#### Furuno Format

|                  |                             |
|------------------|-----------------------------|
| Update Rate      | Selectable @ 5Hz or 40Hz    |
| Resolution       | Selectable @ 0.166° or 0.1° |
| Signal Amplitude | Selectable @ 5Vdc or 12Vdc  |

#### Operational Display Data (Prog LCD)

|                 |                          |
|-----------------|--------------------------|
| Actual Heading  | XXX.X ° Mag / True       |
| Set Course      | XXX.X ° Mag / True       |
| Rudder Angle    | Bar graph + 2 digit      |
| XTE Track Data  | nM Left/Right + dat type |
| HTS Track Data  | Hdg/Err to WP + dat type |
| Rudder Setting  | Value 1-9                |
| Yaw Setting     | Value 1-9                |
| Counter Setting | Value 1-9                |

#### Alarm Display Data (Prog LCD)

|                      |                                      |
|----------------------|--------------------------------------|
| Watch Alarm          | Sample shown of total 33 alarm types |
| Off Course Alarm     |                                      |
| Heading Data Fail    |                                      |
| Track Data Fail      |                                      |
| Steering System Fail |                                      |

#### Compass Safe Distance

|                         |      |
|-------------------------|------|
| NT777 Control Unit      | 0.4m |
| NT777 Distribution Unit | 0.4m |