

## Installation

The NMEA compass unit is contained in a standard TMQ compass moulded plastic case, with one 5-core cable leading from it. When properly installed and calibrated, the cable entry point should be approximately south.

### Cable connections

Red = +12V  
Blue = Gnd  
Yellow = Data out  
White = Calibrate switch  
Green = No connection.

### Power Supply

Attach 12 Volt power supply to the red (+ve) and blue (-ve) wires.

### Mounting

See the attached diagram. Ensure that all magnetic materials, power cables and radio antennas are kept at a distance of AT LEAST 1 Metre (3 feet). Fasten the mounting brackets with non-magnetic screws. If fastening compass to a bulkhead, etc, check other side of bulkhead for magnetic materials.

### Data Output

Data output is in NMEA 0183 format on the yellow wire (0 or 5 Volts, 4800 baud). Data return should be connected to the negative supply. Sufficient current is supplied to drive at least 2 reading devices. When power is applied, the device will begin sending course information once per second.

### Calibration Switch

You may wish to instal a standard on/off switch connecting the calibrate (white) wre to ground. This switch will then start/stop compass calibration.

If you prefer not to fit this switch, then ensure the white wire is well insulated.

### Selecting Data Output Type

There are three short sections of track on the PCB marked "1", "2" and "3" (under board, on edge near processor). By cutting the tracks at these points, different NMEA data sentences may be generated.

Link#	1	2	3	Output
	whole	whole	whole	HCHDG + HCHDM + HCVTGTG
	cut	whole	whole	HCHDG
	whole	cut	whole	HCHDM
	cut	cut	whole	HCVTGTG
	whole	whole	cut	IIHDG + IIHDM + IIVTGTG
	cut	whole	cut	FIHDG
	whole	cut	cut	IIHDM
	cut	cut	cut	IIVTGTG

Any NMEA-0183 compatible display unit should be able to accept data from this unit. Examples include:

- \* Stowe dataline WAYPOINT (requires \$\_\_VTG sentence)
- \* Japan Radio Co. JMA 2141 radar

### NOTES:

The plastic insulation on the underside of the PCB is to prevent the compass coil pins from shorting with the PCB. **DO NOT REMOVE!**

The other materials inside the compass case are packing and should be removed before use.

If you have disassembled and reassembled the unit, the blue wire leading from the compass coil should be aligned with the heat sink on the PCB. This will cause the cable entry point to be approximately south.

# AUTOPILOT — COMPASS INSTALLATION

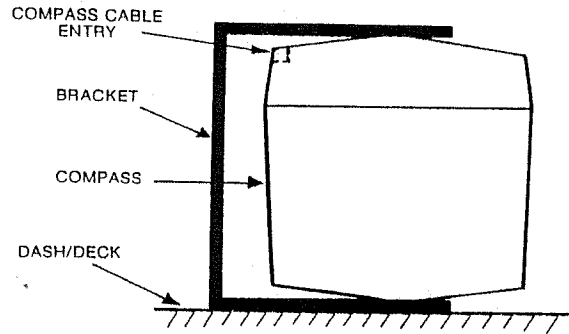


Figure A — Bottom Mount

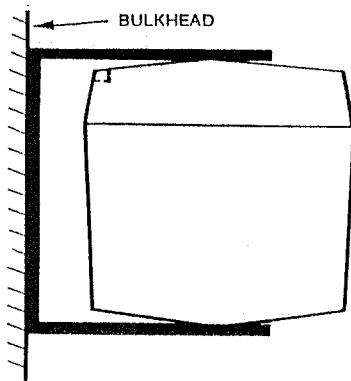


Figure B — Side Mount

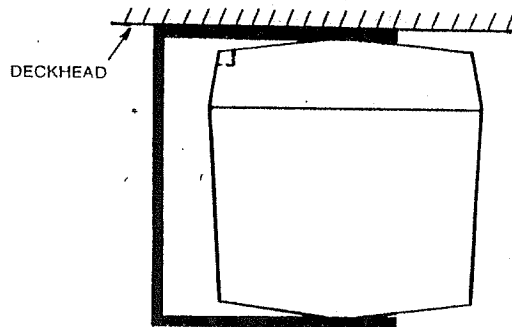


Figure C — Top Mount

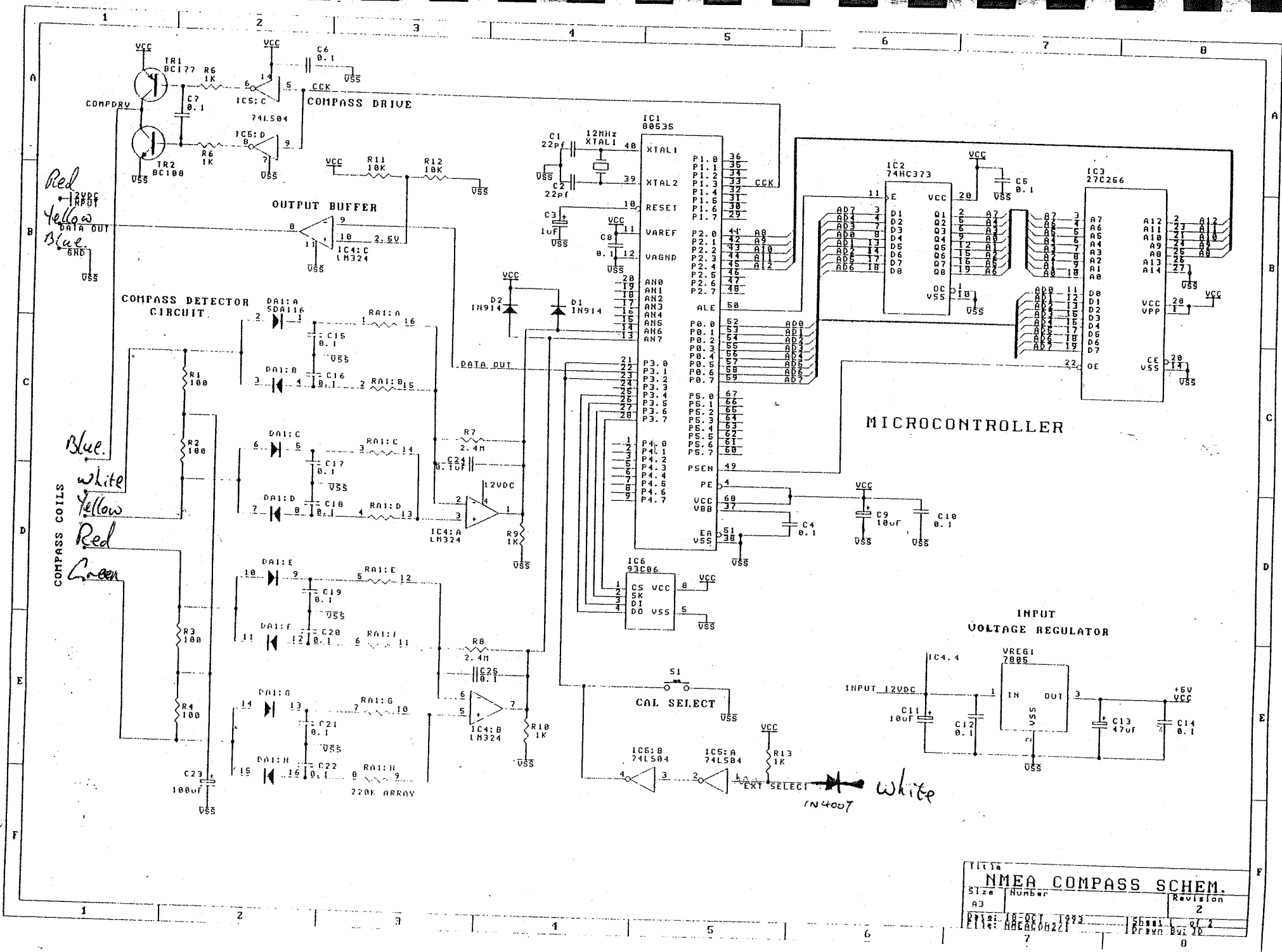
**NOTE:**

MAGNETIC INTERFERENCE WILL EFFECT THE EFFICIENCY OF THE MAGNETIC SENSOR UNIT. IT IS ESSENTIAL TO POSITION THE MSU FOR MINIMUM INTERFERENCE.

DO NOT RUN MSU CABLE WITH OTHER CABLES ON THE VESSEL AND MOUNT THE MSU WELL AWAY FROM FERROUS METALS, ELECTRICS AND OTHER COMPASSES.

**CAUTION** WHERE EVER YOU MOUNT THE MSU, BE AWARE OF WHAT IS ON THE OTHER SIDE OF THAT SURFACE.

APPROVED BY		DATE
Title: <i>INSTALLATION - MAGNETIC SENSOR UNIT</i>		
Size A4	Number	Revision /
Date:	Sheet of	
File: A4BLANK/1	Drawn By:	



Title		NMEA COMPASS SCHEM.	
Size	Number	Revision	
A3		Z	
File:	16-01-1992	Sheet:	of 2
File:	004AR0221	Drawn By:	JK
		8	