



CORUS
The Complete Navigation System

**SYSTEM
OVERVIEW**

This manual is a general overview of the Corus Instrument System, and gives instructions on the main functions common to most display head configurations. More specific details on installation and operation are supplied with each display head and transducer.

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1 General

1.1 Introduction

Corus is one of the most advanced marine instrument systems available. Using the revolutionary Corus Monocable™ system, all transducers and displays are linked by a single cable, which greatly simplifies installation. The development of Active Transducers means that all functions can be accessed and displayed by the Corus Active Displays. With the addition of Corus Autopilots and the Navstation chart plotter, Corus forms a fully integrated navigation system. Despite their complexity, Corus instruments have been designed so that they are very simple to operate, using only four "soft" keys to access all functions.

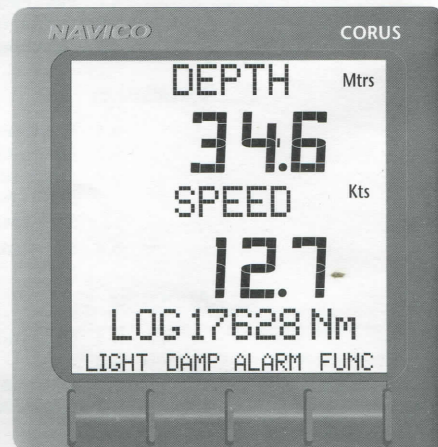
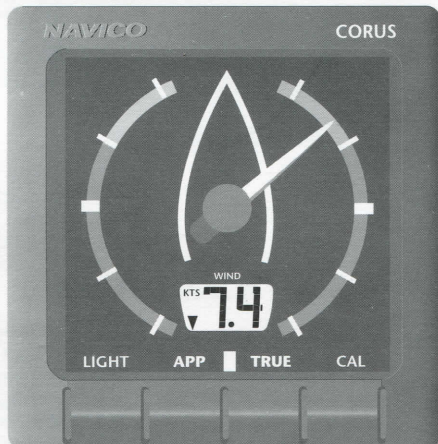
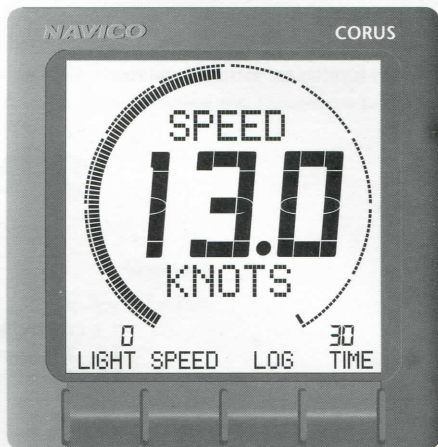
To ensure the best results from Corus it is essential that it is installed and operated correctly. Please read this manual thoroughly before attempting installation and use.

Thank you for choosing Navico

If you are pleased with your Corus instrument we hope you will be interested in our range of marine electronic equipment, which is manufactured to the same high standards as Corus. Please contact your nearest Navico Agent for a catalogue showing our increasing range of high tech navigational instruments, autopilots, radar and VHF radio sets.

Navico operate a policy of continual development and reserve the right to alter and improve the specification of their products without notice.

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1.2 Technical Summary

Digital Display Heads

Size	110x110x47mm (4.33x4.33x1.85in)
Weight	262g (9.25oz)
Ambient Temp Range	-10°C to +60°C (14°F to 140°F)
Lighting	5 levels
Current Consumption	40mA Lights Off 100mA Lights On
Supply Voltage	12v DC
Operating Protocol	CANBUS
Communication Speed	72Kb/sec
Max units per system	32

A unit is any piece of Corus equipment (display head, active transducer, Navstation, autopilot etc).

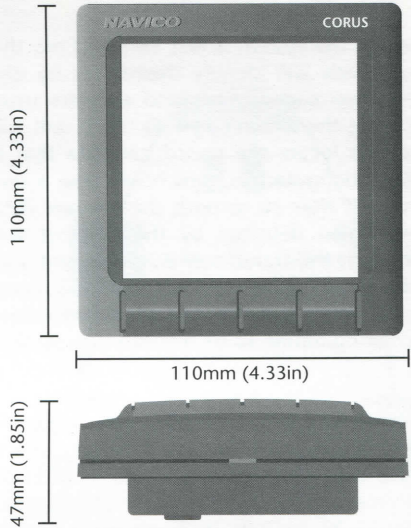


Fig 1.1 - Corus display head dimensions

1.3 The Complete Navigation System

The Corus Instrument System offers total flexibility, whatever the user's needs - from a single Multi Data display with dedicated transducers (Fig 1.2), to a complete navigation system, including chart plotter, GPS and autopilot (Fig 1.3).

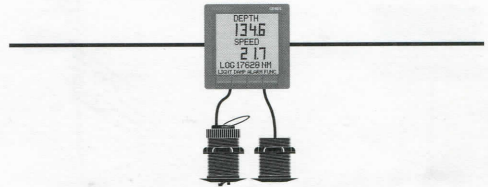


Fig 1.2 - C400M Multidata display

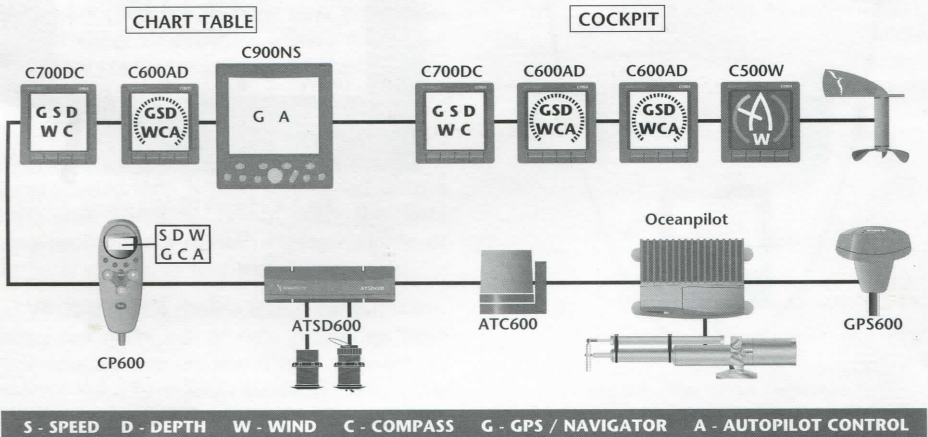


Fig 1.3 - Corus Navigation System

1.4 Power Up

When the system is first switched on, the display heads will identify themselves by displaying their part number and software issue number on the screen (Fig 1.4). Each unit will attempt to locate the transducer data that it was last configured to, which will take a few seconds. If after 20 seconds the relevant data has not been detected by the head, it will assume that the transducer is not present and the display will go to the SELECT HEADS menu (Fig 1.5), which will allow an alternative transducer/configuration to be selected (see section 4.4).

The first time a C600AD Active Display is powered up after installation it will request a configuration selection by going to the SELECT HEADS menu (Fig 1.5). This may take approximately 15-20 seconds, as it will need to perform an internal initialisation routine first.



Fig 1.4 - Display on power up

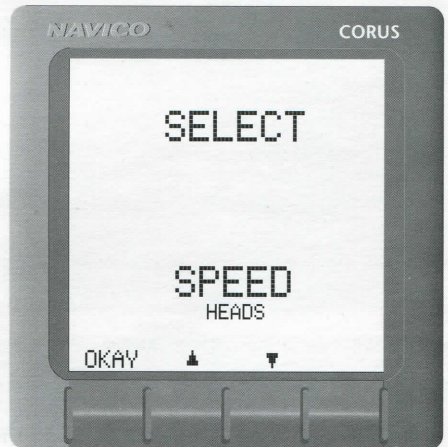


Fig 1.5 - Select HEADS menu

2 Corus Options

The main concept behind the Corus System was to free the user from the limitations of Dedicated display units, which are restricted to displaying data specific to the transducer they are plugged into. Central to the system are the Active Transducers, which process the raw data collected - Speed, Depth, Wind etc - and transmit it onto a single cable data network (Fig 2.1), where it can be picked up and displayed on any active display unit. If data from a different transducer needs to be displayed, a few simple key-strokes can reconfigure the active display to a new data source. Thus, a display showing compass data can in seconds be changed to show boat speed data.

However, there is still a need for simple entry level units for users on a limited budget, and there is also a requirement for traditional analogue wind displays. Therefore, the Corus range has been expanded to include a dedicated (non-active) multidata unit and analogue displays, which can still form part of the Corus Network. All Corus units in the range are discussed briefly in this section. For full details on each unit, please refer to the specific instruction card supplied with the unit.

2.1 Active Transducers

In a traditional instrument system, the transducers collected the raw data and transmitted it either to a specific master display, or to a central computer unit, where the data was processed and displayed.

With Corus Active Transducers, the data is collected and processed by the transducer itself. The processed data is then distributed onto a Monocable Network, rather than the data being routed via a master display module or computer specific to that transducer.

What this also means is that certain transducers can make use of data picked up from other transducers on the Corus network to enhance the information available. Thus, the ATM601 Masthead Transducer can use boat-speed data from the ATSD600 Active Speed/Depth Module to calculate the True

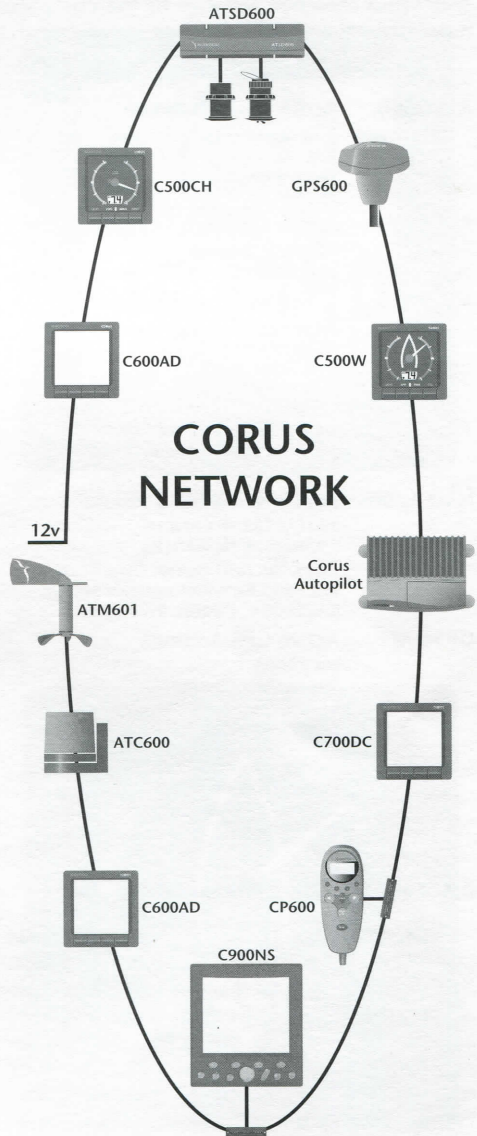
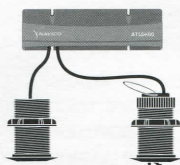


Fig 2.1 - The Corus Network

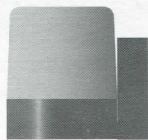
Wind Angle, True Wind Speed and VMG. The Compass data from the ATC600 Active Compass can then be used to calculate the True Wind Direction (relative to the compass, rather than the vessel).

Active Transducers currently available -

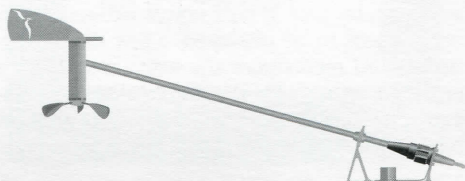
- ATSD600** Active Speed/Module
Boat Speed
Log
Water Temperature
Depth
- ATC600** Active Compass Transducer
Magnetic Bearing
True Bearing (with variation entered)
- ATM601** Active Masthead Transducer
Apparent Wind Angle
Apparent Wind Speed
True Wind Angle *
True Wind Speed *
VMG *
True Wind Direction *□
* requires boat speed data
□ requires compass data
- NMEA600** Active NMEA0183 Interface
NMEA0183 → CANBUS
CANBUS → NMEA0183
Bays for additional functions -
RACE600 Race Performance System
RACE600:C Custom Race System
- GPS600** Active GPS Antenna
Lat / Long
Speed Over Ground
Course Over Ground
Cross Track Error
Bearing To Waypoint
Distance To Waypoint
Estimated Time To Waypoint
Waypoint Closing Velocity
Time (UTC)



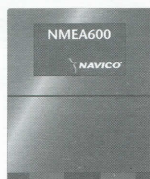
ATSD600



ATC600



ATM601



NMEA600



GPS600

Fig 2.2 - Corus Active Transducers

2.2 C600AD Active Display

The C600AD Active Display is the main unit of the Corus System. This has the capability to display all data (except Lat/Long) available on the Corus Network - it is not limited to any specific function. If it is necessary to display data from a different data source, it can be reconfigured with a few simple keystrokes. Within seconds the display not only changes the data source from one transducer to another, it also downloads the program necessary to display the data from the transducer - the soft-key labels, menu structure and readouts all change to suit the information (Fig 2.3).

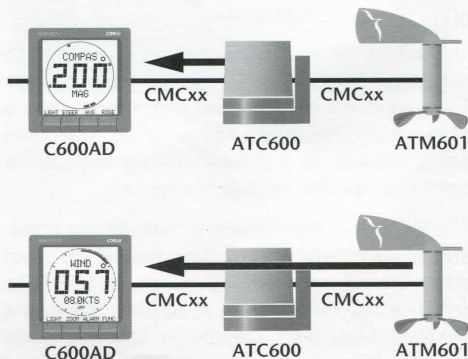


Fig 2.3 - Reconfiguring C600AD Display

Subject to the limits stated in section 1.2, a maximum of 29 C600ADs can be connected to a Corus System.

2.3 C700DC Datacentre Display

The C700DC (Fig 2.4) is a multifunction repeater that offers a variety of functions -

Instrument data repeater. Speed, Depth, Wind, & Compass data can all be displayed on the C700DC, providing that the relevant transducers are present on the Network.

NMEA0183 data repeater. If the NMEA600 is present on the Network, the C700DC can display selected data from an external NMEA0183 source.

GPS600 Controller. The primary function of the C700DC is as the control unit for the GPS600 Active GPS antenna, allowing waypoints and routes to be controlled. A variety of navigational data can also be displayed.

A Corus Network can consist of a maximum of 15 C700DCs.



Fig 2.4 - C700DC Datacentre Display

2.4 C500W & C500CH Analogue Displays

The Analogue Wind displays are designed specifically to display data from the ATM601 Masthead Transducer.

The C500W wind display (Fig 2.5) shows both the Apparent Wind Angle and the Apparent Wind Speed. True Wind Angle and True Wind Speed can be calculated and displayed if Speed data is present on the Corus Network.

The C500CH is a dedicated Close Hauled / Running magnified wind display. This gives a precise display of the wind angle up to 60° off the wind, either upwind or downwind. The LCD can display the wind speed, or VMG, if boat speed data is available.

There can be a combined maximum of 15 C500W and C500CH displays on a Corus Network. For more details on the functions of these displays, please refer to the instruction cards supplied.

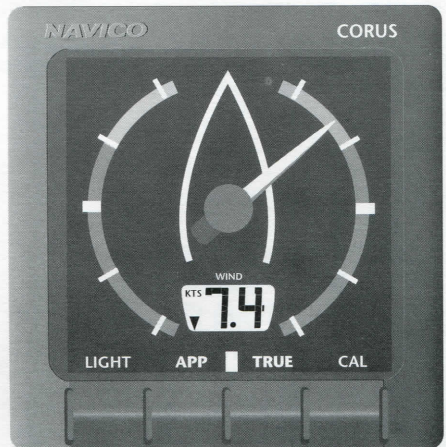


Fig 2.5 - C500W Analogue Wind Display

2.5 C400M Dedicated Multidata Display

The C400M Dedicated display was added to the Corus range to suit those who require a very simple system - Speed and Depth only. The C400M is plugged directly into the speed and depth transducers, and can only display that information - it cannot be reconfigured to show other transducer data. However, the data from the dedicated transducers are processed and distributed onto the Network by the C400M and can be repeated on any C600AD or C700DC display. These units are recommended for those who do not plan to expand their systems in the future.

The C400M multi display shows speed and depth data simultaneously. Although this unit will normally only display Speed and Depth functions, as an extra feature it can also show Apparent Wind Speed and Angle on the selectable bottom line of the display, if the ATM601 Masthead Transducer is on the Network. There are two leads for the speed and depth transducers on the back case in addition to the two Monocable plugs.

There can only be one C400M per Corus System.

NOTE - There must be only one source for Speed and Depth data in a Corus Network. Therefore, a Network should consist of either of these options -

ONE C400M only

or

ONE ATSD600 Active Speed/Depth Module

Never install a mixture of these options (Fig 2.2).



Fig 2.1 - C400M, with Transducer cables

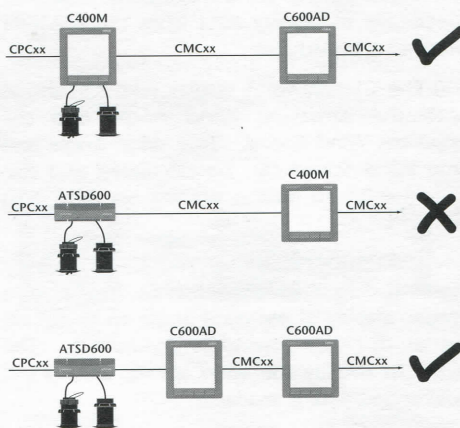


Fig 2.2 - Correct Speed & Depth installation

3 Operation

3.1 General

Although there are some differences in the functioning of each type of Corus display, they all share common functions which are described in this System Overview. The more specific functions are described in separate instructions supplied with each display head or transducer.

For more details on the various display head options, please refer to section 2.

3.2 The Softkey System

As more and more functions are added to each new generation of instruments, it becomes more difficult to make the instruments simple to operate without constant reference to a manual. Navico have solved this problem with the development of the softkey System.

With softkeys, all the keys are unmarked. Instead, the labels appear on the bottom line of the LCD display and change as each menu level is accessed (Fig 3.1). This allows intuitive operation of the heads and frees the user from constant reference to instruction manuals. At any time, a function can be exited simply by pressing the **EXIT** key. This will return to the top level menu (see section 3.3) without any changes entered being accepted.

3.3 The Top Level Menu

The most commonly used menu functions are always displayed when the display is powered up. This is referred to as the Top Level Menu (Fig 3.2). Whenever the **EXIT** key is pressed, the unit will always return to the Top Level Menu.

Note (C600AD only) - the Top Level Menu will vary depending on which transducer the display is accepting data from. Refer to the instruction card supplied with the relevant transducer for more information.

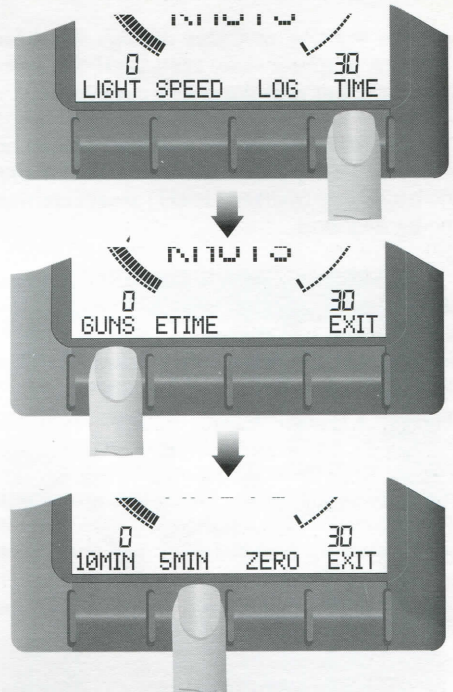


Fig 3.1 - The softkey principle

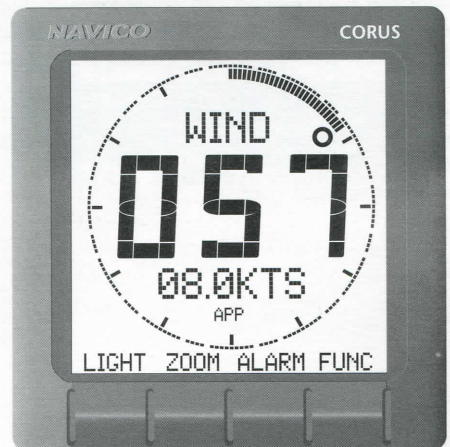


Fig 3.2 - Top level menu - wind configuration (C600AD)

3.4 Backlighting

The lighting of Corus displays has been designed to give a clear, even backlight, without interfering with the crew's night vision.

The backlight can be switched on and off with a single key press - in the top level menu, the left softkey (marked **LIGHT**) always controls the backlighting.

To switch on/off the backlighting, press **LIGHT**. If the lights are being switched on, the softkey menu will change to **OKAY**, ▲ and ▼, and the text line immediately below the large digits will display the current backlighting level, between 1 and 5 (Fig 3.3). If no key is pressed within four seconds, the display will return to the top level menu display, with the backlighting level unchanged. While the text line is showing the current backlighting level, this can be adjusted up and down by pressing the ▲ and ▼ keys respectively, and **OKAY** to accept. This backlighting level will be stored by the unit, even if disconnected from the power.

While the backlighting is on, the lamp legend ⚡ will be shown on the display.

With a network of more than one Corus head, the backlighting can either be switched on and off individually, or the displays can be networked - pressing **LIGHT** on one display will backlight all displays simultaneously. Any adjustments to the backlighting level will also be applied across the network. Please refer to section 4.6 for more details on local and networked backlight control.

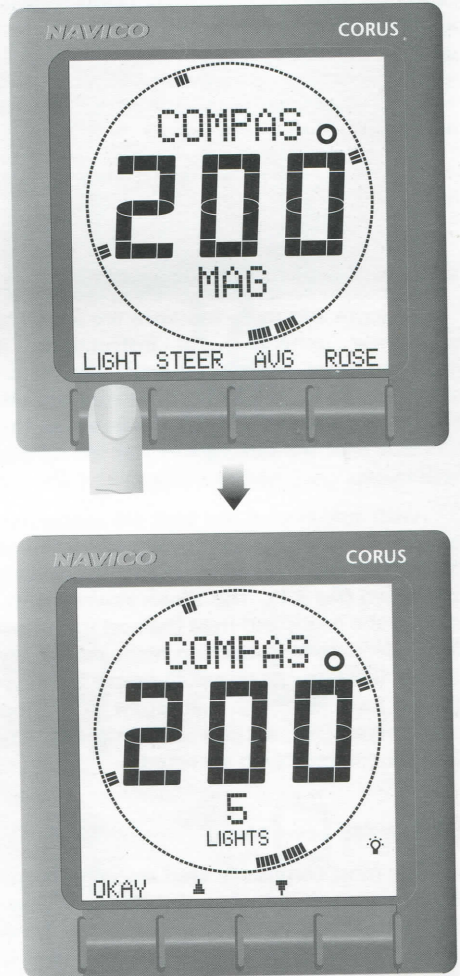


Fig 3.3 - Adjusting backlighting level

4 Concealed Menus

4.1 Accessing Concealed Menus

To avoid accidental alterations, the calibration and settings functions are held in a concealed menu. This menu also holds the reconfiguration function for the C600AD Active head.

To access this menu from the top level menu, press and hold the **LIGHT** key for approximately 3 seconds. The unit will emit a long beep, and the concealed menu will be displayed (Fig 4.1).

If the PIN security system is being used then the PIN code will need to be entered before the **CAL** or **HEADS*** menu can be entered (see section 4.7).

* C600AD only

The Settings menu (**SET**) holds less commonly used functions such as Local/Network Light setting, Contrast, Damping, along with any special functions specific to that configuration.

The Calibration menu (**CAL**) contains settings such as the units used (eg MPH, Km/H, Knots etc), the Software issue used in both the display and the relevant transducer, and the PIN security function.

The following sections describe in alphabetical order the common functions available in the concealed menus. Please note that depending on which transducer the display is configured to, not all of these functions may be available, or they may be located elsewhere. Additional functions specific to that configuration may also be available in these menus. For full details, refer to the instruction card supplied with each transducer.

On some configurations with many Calibration or Settings functions, it may be necessary to press the **▶▶** key to reveal the required function.

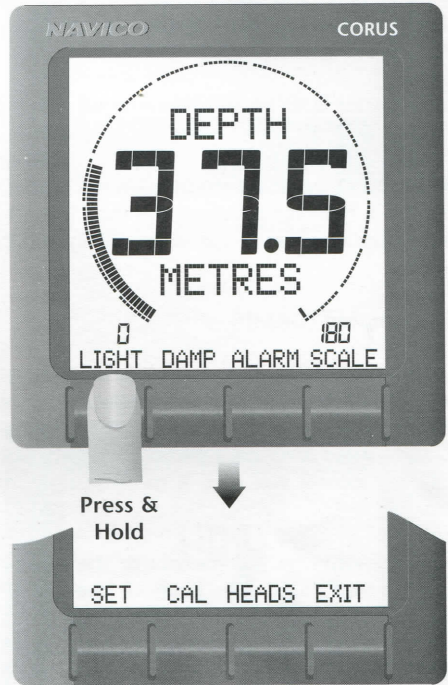


Fig 4.1 - Accessing concealed menus

4.2 Contrast (CONT)

This function adjusts the contrast level of the display, and is located in the Settings menu.

From the concealed menu, press **SET**, followed by **CONT**. The display will show the current contrast level, between 1 and 9 (Fig 4.2). To adjust the contrast level, press the **▲** and **▼** softkeys and **OKAY** to accept. **EXIT** will return to the top level menu without any changes being accepted.

Contrast level 1 is the lightest setting, level 9 is the darkest. When adjusting the contrast, it is important to be aware that the ambient temperature can affect the crystals in the LCD display - a high temperature will tend to darken the display, a low temperature will lighten it.

4.3 Damping (DAMP)

Damping refers to the number of readings the software takes from the transducer before displaying the average value. A longer averaging period will produce a steadier reading, but a shorter period will give a more responsive reading.

Depending on the transducer the display is configured to, the location of the **DAMP** function may vary - in some configurations it is located on the top level menu, in others it is in the concealed menu. To adjust the damping level press **DAMP**. The display will show the current damping level, usually between 0 and 4 (Fig 4.3). To adjust, press the **▲** and **▼** softkeys and **OKAY** to accept. **EXIT** will return to the top level menu without any changes being accepted.

A lower damping setting will produce a shorter averaging period, a higher damping period will produce a longer averaging period. For more details on response times and damping factors, please refer to the instruction card supplied with each transducer.

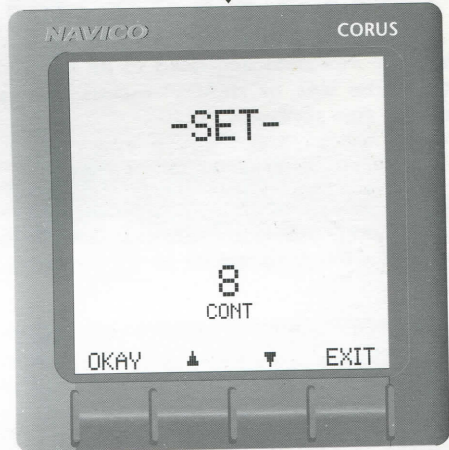
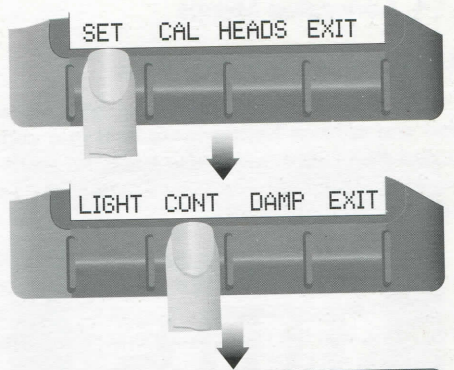


Fig 4.2 - Contrast settings screen

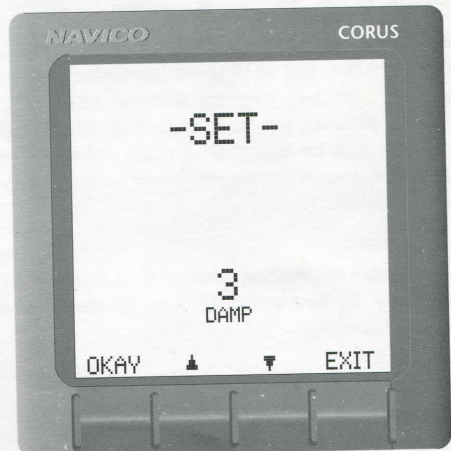


Fig 4.3 - Damping settings screen

4.4 Reconfiguring C600AD Displays (HEADS)

This function allows the C600AD active display to be reconfigured to a different transducer than the one it is currently receiving data from. Thus, a display showing Depth data can, for example be reconfigured to show Wind data using this function.

From the concealed menu, press **HEADS**. By pressing the **▲** and **▼** keys, the display will scroll through the available configuration choices currently on the Network (Fig 4.4). When the required configuration is shown, pressing **OKAY** will reconfigure the display within a few seconds to the selected transducer.

Note that specific configurations will only appear here if the relevant transducer is present on the Corus Network.

4.5 Software issue (ISSUE)

This display shows the issue number of the software installed in both the display head and the transducer (Fig 4.5). This information may be required in the event of a fault developing. Please have this information to hand if it is necessary to contact either Navico or a registered Service Agent with any problems with Corus equipment.



Fig 4.4 - Select HEADS menu

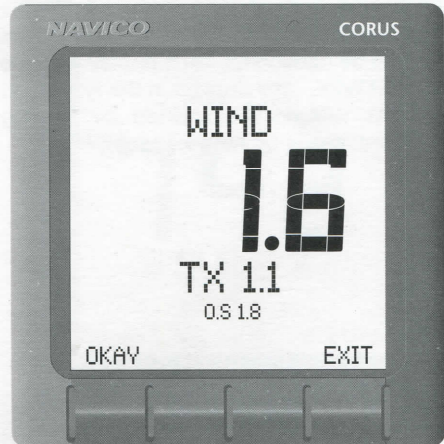


Fig 4.5 - Software issue data

4.6 Lighting - local and network control (LIGHT)

The backlighting of Corus displays can be controlled independently by each display head (LOCAL control). This means that at night each display head must have its own backlight switched on in turn (Fig 4.6a).

Alternatively, by selecting NETWORK control, pressing LIGHT on one display will turn the backlighting of the whole system on or off, and any adjustments to the lighting levels will be applied to all display units across the network (Fig 4.6b). This is a very useful function, especially if displays are situated in several different locations - the helmsman can switch the lighting on across the whole system with one push of a button, without leaving the wheel.

From the concealed menu, press LIGHT. The display will show which lighting configuration that particular display is set to - LOCAL or NETWORK (Fig 4.7). To change the setting, press the \blacktriangle or \blacktriangledown key until the required configuration is displayed, and press OKAY to accept.

Note that in order for the whole Corus System to be networked, each display must be set to NETWORK. Any displays in the system set to LOCAL will not be affected by lighting adjustments made by networked displays.

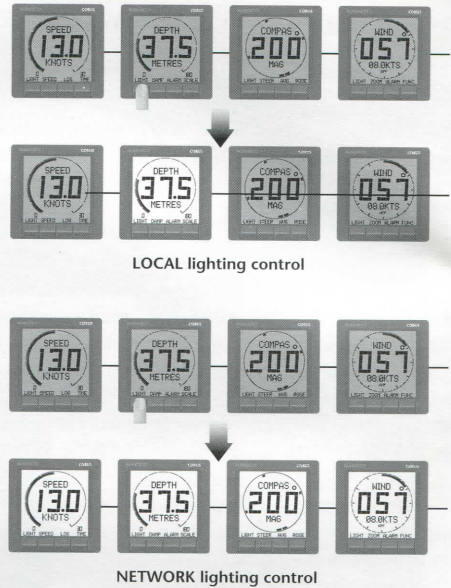


Fig 4.6 - Corus lighting control options

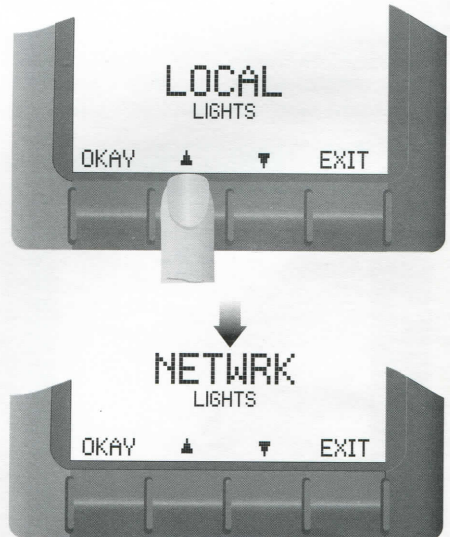


Fig 4.7 - Selecting Network configuration

4.7 PIN (Personal Ident Number) Security

The PIN security function prevents unauthorised access to the CAL and HEADS functions in the concealed menu, by requesting a preset three-digit code to be entered.

From the concealed menu, press **CAL** followed by **PIN**. This function allows the user to set the PIN code, or to amend the existing PIN.

The 3-digit code is displayed on the large numeric display. If no PIN code is set, this will be 000. Pressing the key marked **1** will increment the first digit, from 0 to 9. The key marked **2** will adjust the second digit etc. Press **ENTER** to select the code. The display will then ask for confirmation that the selected PIN code is correct (Fig 4.8). To accept, press **YES**. To re-enter the PIN code press **NO**. To abort to the Top Level Menu without setting a PIN code, press **EXIT**.

Once the PIN code is set, each time the HEADS or CAL menus are accessed, it will be necessary to enter the PIN code first. To disable the PIN security function, select **PIN** in the **CAL** menu and re-enter the PIN code as 000.

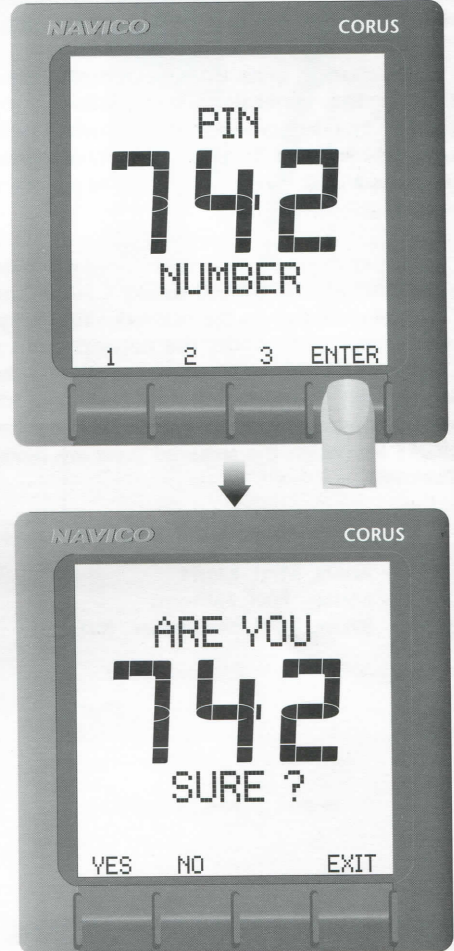


Fig 4.8 - Setting the PIN security code

4.8 Scaling of Annulus (SCALE)

In most configurations, the data currently being displayed on the large digits is also repeated in an analogue format on the annulus. The scale of the annulus is shown on the small digits just above the softkey labels.

Depending on the transducer the display is configured to, the location of the **SCALE** function may vary - in some configurations it is located on the top level menu, in others it is in the concealed menu. To adjust the scale press **SCALE**. The display will show the current annulus scale. To adjust, press the **▲** and **▼** softkeys and **OKAY** to accept. Some configurations offer the **AUTO SCALE** function, where the display will automatically adjust the scale of the annulus to suit the range of data currently being displayed. **EXIT** will return to the top level menu without any changes being accepted.

4.9 Selecting Units of Measurement (UNITS)

This function allows the units of measurement for that configuration to be selected. Thus boat speed can be measured in Knots, MPH or Km/H etc. Any changes to units on one display head will be applied to all displays on the network also displaying the same data.

To change units of measurement, press **CAL** in the concealed menu followed by **UNITS**. The display will show the current units selected. To scroll through the units available, press the **▲** and **▼** keys, and **OKAY** to select the chosen units (Fig 4.9).

Any changes to wind speed units made on a C600AD will be applied to any C500W and C500CH units also on the network. To change wind speed units across the network from a C500W or C500CH display, press and hold the **LIGHT** key. The LCD will scroll through each unit of measurement available. Release the **LIGHT** key when the required units are being displayed.

Units of measurement available are -

- Speed** - Knots, MPH, Km/H
- Depth** - Metres, Feet, Fathoms
- Wind** - Knots, MPH, Metres/Sec, Beaufort

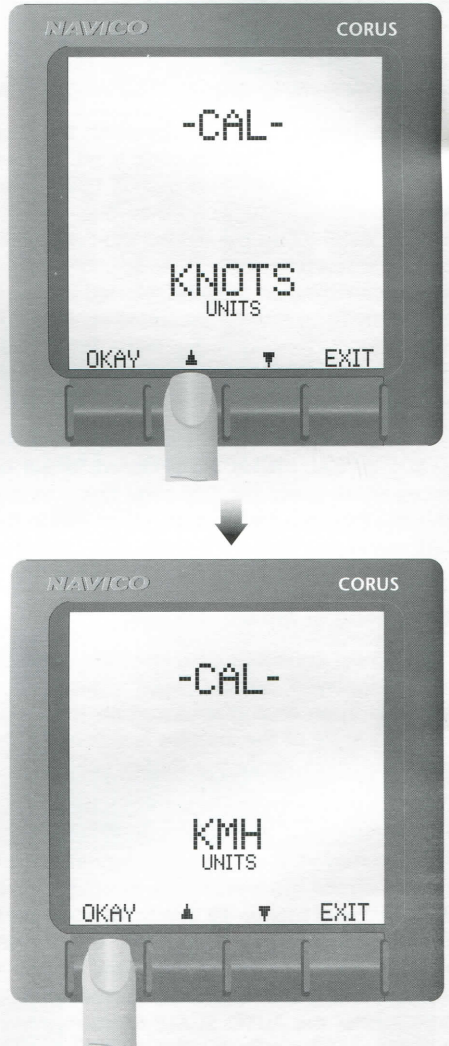


Fig 4.9 - Selecting units of measurement (SPEED)

5 Installation

5.1 Mounting the Display Heads

When mounting the display heads in their chosen location, it is important to ensure that there is adequate clearance behind the bulkhead for the rear of the display with the Monocables inserted - allow at least 64mm (2.5 in) clearance (Fig 5.1).

Additionally, the displays should not be fitted to a surface that has a curve greater than 1mm ($1/25$ in) across the mounting area. If fixing to an uneven surface, care should be taken not to overtighten the screws. When choosing a location, consideration should be given to the water integrity of the gasket seal if the surface is not flat. Corus instruments are extremely weatherproof, but the rear of the instrument case with its electrical connections should be protected from moisture as far as possible.

Using the template supplied with each unit, drill the central aperture for the instrument case using a 75mm hole saw, then the four fixing holes as indicated on the template (Fig 5.2). If the instruments are to be fixed to a GRP bulkhead, the fixing holes should be countersunk after drilling, to avoid splitting the gelcoat when inserting the self tapping screws provided.

The width and height of each unit is 110mm (4.33 in), but a distance of at least 6mm (0.25 in) should be allowed between each unit for the protective sun covers supplied with each unit (Fig 5.3). **Note - long term exposure to direct sunlight can damage LCDs if left unprotected when not in use.**

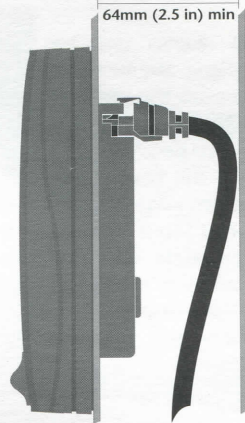


Fig 5.1 - Minimum clearance behind bulkhead

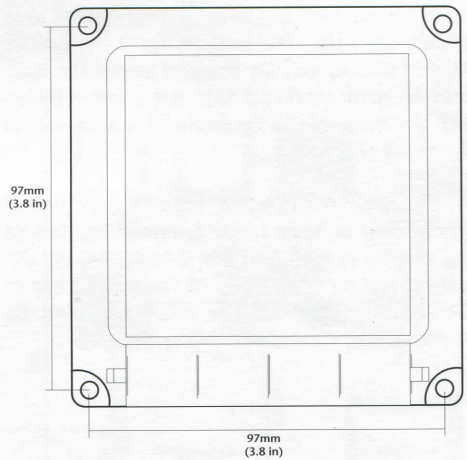


Fig 5.2 - Drilling centres

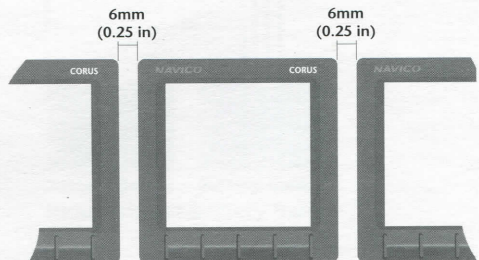


Fig 5.3 - Mounting distance for covers

5.2 Fitting the Bezel

Once the display unit has been firmly screwed into place, the bezel cover can be fitted, which conceals the screw fittings.

There are two pegs that protrude from the bottom edge of the bezel. These fit into two slots in the bottom edge of the clear casing (Fig 5.4). The bezel is fitted by locating these pegs into their appropriate slots first - this is best achieved by angling the bezel, bottom first towards the main casing. Once located, the top edge of the bezel is rotated into place while holding the bottom in position until it clicks home (Fig 5.5).

If the bezel has been fitted correctly, the edges should line up with the edges of the main casing, and the bezel should not be able to be pulled off. The bottom lip of the rubber keypad should not be be trapped under the bottom of the bezel (Fig 5.6a). If it is correctly fitted, the edge of the keypad will rest on top of the bezel (Fig 5.6b).

To remove the bezel, insert a thin bladed screwdriver or knife blade between the top of the display screen and the bezel. Rotate the screwdriver to lift the top of the bezel clear of the locating latches. The bezel can then be removed from the main casing.

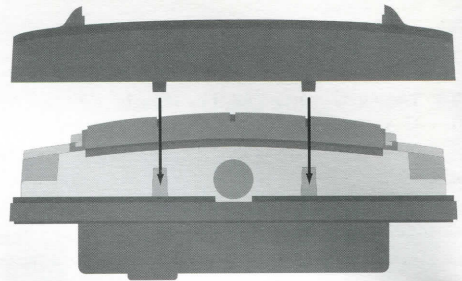


Fig 5.4 - Locating slots for bezel

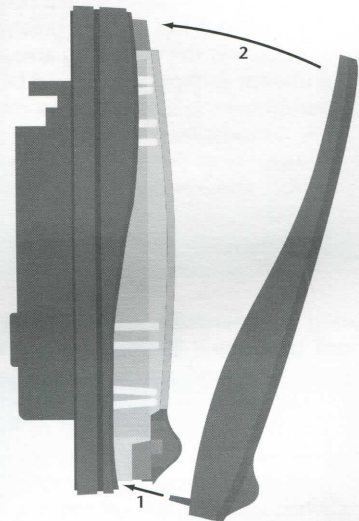
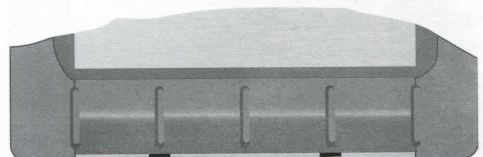
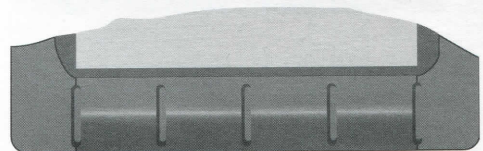


Fig 5.5 - Fitting instrument bezel



INCORRECT keypad is caught under bottom edge of bezel



CORRECT keypad lip lies over bottom edge of bezel

Fig 5.6 - Correct final fitting of bezel

5.3 Electrical Installation

All Corus equipment is linked together by a single cable 'daisy chain', using Monocables (CMCxx, where xx is the length in metres). The Monocables terminate in a plug assembly which plugs into the two sockets on the back of the Corus displays and on Corus Active Transducers. These cables have a security latch which locks the plug in place when inserted.

To remove a Monocable, depress the tab located on the top of the Monocable plug to disengage the security latch, allowing the plug to be withdrawn. Do not attempt to force the plugs without disengaging the latch, or damage to the cable or the unit it is plugged into may result.

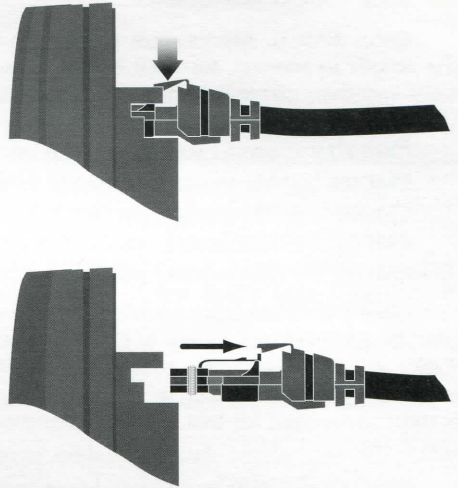


Fig 5.7 - Removing Monocable plug

5.3.1 CPCxx Power Cable

The first link in a Corus system is the CPCxx Power Cable, which supplies 12v DC to the system. This is available in two lengths -

- CPC02 Power Cable, 2m (6 ft 8 in)
- CPC05 Power Cable, 5m (16 ft 8 in)

Only one CPCxx power cable is required per Corus system, but it is a very important component - power **must** be supplied via a CPCxx, or the Network will not function. **Do not attempt to power a system using another cable or by splicing into a CMCxx Monocable.**

The CPCxx will supply power to all Corus Instruments on the Network. However, due to their higher power consumption some Corus equipment such as the Navstation and Corus Autopilots will require their own power supply.

NOTE - On vessels with two or more independent battery banks (normally larger vessels), always ensure that Corus instruments and any related equipment (Corus equipment requiring their own power supply or equipment interfaced via NMEA) are connected to the same battery bank (Fig 5.8), even though they may each have independent connections to the switch panel. This is to avoid a voltage drop across the network which will render the system inoperative.

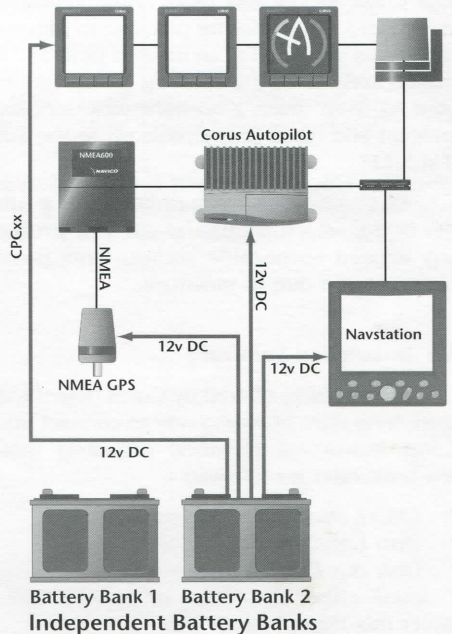


Fig 5.8 - Correct installation on vessel with two or more independent battery banks

5.3.2 CMCxx Monocables

Corus CMCxx Monocables (where xx is the length in metres) are used to link Corus units together, carrying both power and data (Fig 5.9). The following lengths are available-

CMC0.25	Monocable, 0.25m (10 in)
CMC0.5	Monocable, 0.5m (1 ft 8 in)
CMC02	Monocable, 2m (6 ft 8 in)
CMC05	Monocable, 5m (16 ft 8 in)
CMC10	Monocable, 10m (33 ft 6 in)

Once power has been supplied to the first unit in the Network using a CPCxx Power Cable, it is simply a matter of linking the units together using Monocables, in whichever order is most convenient for that specific installation (Fig 5.10).

Most Corus units have two Monocable sockets, allowing units to be 'daisy chained' together. However, some units (such as the Navstation and Corus Programmer) terminate in a single Monocable plug. Additionally, in some cases it may not be practical to run two cables to a unit if it is in an isolated location. In these cases, a CMJ three-way joiner can be used to 'T-off' from a convenient Monocable location and run a single cable off to the unit (Fig 5.11).

All Corus units are supplied with a rubber bung, which should be used to protect any unused Monocable sockets from possible corrosion due to moisture.

5.4 Installation Summary

The flexibility offered by Corus means that there is no right or wrong way to connect up a Corus Instrument Network, providing these few basic rules are followed -

- * CPCxx must be used to supply power.
- * Only one CPCxx per system.
- * Only one C400M per system.
- * Install **either** a C400M, **or** an ATSD600 - **never mix these in a system.**
- * Only one of each transducer per system.

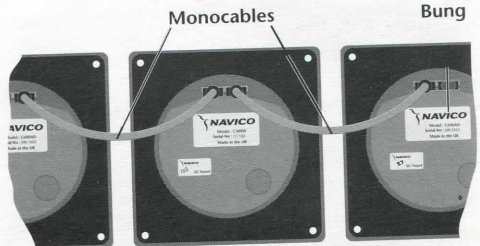


Fig 5.9 - Linking Corus units using Monocables

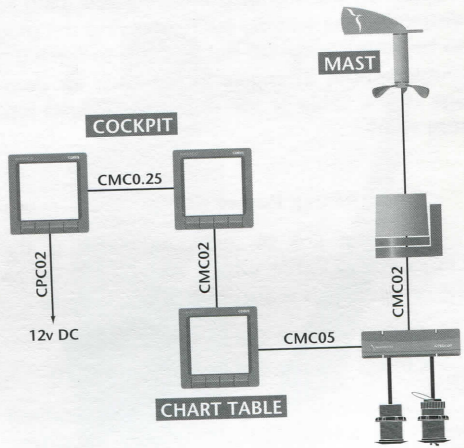


Fig 5.10 - Building a Monocable System

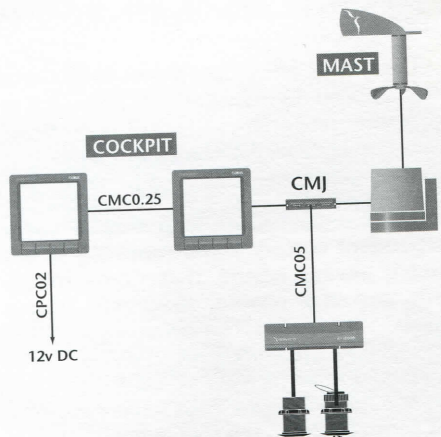


Fig 5.11 - Using CMJ three-way joiner

6 Appendix

6.1 Fault Finding

Symptom	Probable Cause	Remedy
No display on any heads in the system.	Power cable CPCxx loose or broken.	Re-insert CPCxx. Replace CPCxx.
No display on one or more heads.	Monocable CMCxx loose or broken.	Check Monocable supplying first faulty unit. Replace if necessary.
Occasional poor performance.	Electrical interference from other equipment on the vessel.	Fit interference suppressors to equipment responsible.
Display shows "PLEASE WAIT" and starts beeping.	Monocable broken or loose.	Check Monocable supplying unit. Replace if necessary.
All displays show "PLEASE WAIT", except for C400M, which functions normally.	Network terminator in CPCxx Power Cable is broken	Replace CPCxx Power Cable
Display shows "SELECT HEADS" at switch on, although configuration was previously set.	Display is not receiving data from transducer it is configured to.	Check Monocable connections between display and transducer on Network.
Display shows "FAULT"	Display is not receiving data from transducer it is configured to.	Check Monocable connections between display and transducer on Network.

6.2 Corus Source Data

Corus Data	Source
Water depth	C400M or ATSD600
Boatspeed through water	C400M or ATSD600
Water temperature, °C & °F	C400M or ATSD600
Apparent wind angle (AWA)	ATM601
Apparent wind speed (AWS)	ATM601
True wind angle (TWA)	(C400M or ATSD600) + ATM601
True wind speed (TWS)	(C400M or ATSD600) + ATM601
Velocity made good (VMG)	(C400M or ATSD600) + ATM601
True wind direction (TWD)	(C400M or ATSD600) + ATM601 + ATC600
True compass heading (TRUE)	ATC600 with local magnetic variation entered
Cross track error (XTE)	NMEA600, GPS600, C900NS
Bearing to target waypoint (BTW)	NMEA600, GPS600, C900NS
Distance to target waypoint (DTW)	NMEA600, GPS600, C900NS
Course over ground (COG)	NMEA600, GPS600, C900NS
Speed over ground (SOG)	NMEA600, GPS600, C900NS
Waypoint closing velocity (WCV)	GPS600, C900NS
Current Time - UTC + Local Time Offset	GPS600, C900NS
Target Boat Speed	NMEA600 + (RACE600 or RACE600:C)
Percentage Performance	NMEA600 + (RACE600 or RACE600:C)
Optimum Beat/Run Angle	NMEA600 + (RACE600 or RACE600:C)
Adjusted Time	NMEA600 + (RACE600 or RACE600:C)

Corus Source Units -

C400M	Dedicated Speed/Depth Multi
ATSD600	Active Speed/Depth Module
ATM601	Active Masthead Transducer
ATC600	Active Compass Transducer
NMEA600	NMEA Interface Unit
GPS600	Active GPS Antenna
C900NS	Corus Navstation
RACE600	Performance Racing System
RACE600:C	Custom Performance Racing System

Additional C600AD configurations are available if the following units are on the Network -

Corus Configuration	Source
Autopilot Control	Corus Oceanpilot Course Computer (OCC1)
Chart & Satellite data repeater (Not Lat/Long)	Corus Navstation (C900NS)

6.3 Spares & Accessories

The following spares and accessories are available through your local Navico agent. Please quote the part number when ordering.



Corus Power Cables

CPC02 2m Power Cable (12v)

CPC05 5m Power Cable (12v)

A CPC02 is supplied with the C400M Multidata display.

A CPC05 is supplied with the ATSD600 Active Speed and Depth Module and the OCP Oceanpilot Core Pack.



Corus Monocables

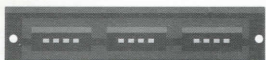
CMC0.25 0.25m Monocable

CMC0.5 0.5m Monocable

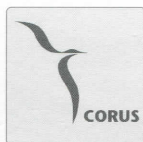
CMC02 2m Monocable

CMC05 5m Monocable

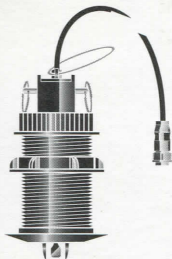
CMC10 10m Monocable



CMJ Three-way Monocable Joiner



CVR4 Sun Cover



Plastic Through Hull Transducers

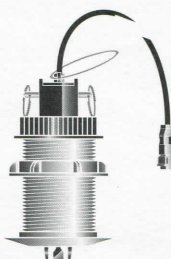
TXS300P:03 Speed (3m cable)

TXD300P:03 Depth (3m cable)

TXD300P:10 Depth (10m cable)

TXD300P:10 Depth (10m cable)

For use on GRP and Ferrous hulled vessels.



Bronze Through Hull Transducers

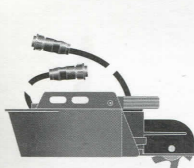
TXS300B:03 Speed (3m cable)

TXD300B:03 Depth (3m cable)

TXD300B:10 Depth (10m cable)

TXD300B:10 Depth (10m cable)

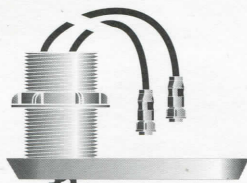
For use on wooden hulled vessels only



Plastic Transom Mount Triducer

TXM300P Speed/Depth (10m cables)

For use on power and motor vessels. Not suitable for sail-powered vessels.



Bronze Triducer

TXM300B Speed/Depth (10m cables)

Suitable for wooden sail-powered vessels.



"Puck" Style Inhull Transducer

TXF300P:10 Depth (10m cable)

For inhull mounting. Suitable for vessels of single-skin construction only.



Speed/Depth Transducer Extension Cables

EXC300S 7m Speed

EXC300D 7m Depth