



The VTS Remote Display (VRD5060) is an application designed to provide remote access to information available in the Vessel Traffic Management & Information System (VTMIS5060). A common use is monitoring of the vessel traffic situation in real time. The VRD5060 can be used locally or remotely to the VTS operations centre, in either a fixed or portable configuration.

In the VTMIS5060, the VOC5060 Operator Workstation is the primary user interface for the VTS operator. The VRD5060 provides an alternative to the VOC5060 when VTS related information must be available to other personnel or parties on a "read only" basis.

Features

VRD5060 is functionally similar to the VOC5060 Operator Workstation with respect to the display of VTS related information, but does not allow for control of VTMIS5060 sub-systems or altering of VTS data. The following information is presented on a VRD5060:

- ✦ *Electronic chart of the coverage area - supporting both encrypted S63 charts and unencrypted S57 edition 3 charts, using the S52 IHO standard presentation library*
- ✦ *Display of object information for all chart objects*
- ✦ *Chart overlays (warning areas, navigation channels, etc)*
- ✦ *Radar target tracks (symbol, vector and ID tag depicting a target's position, course, speed and identity)*
- ✦ *AIS target tracks (symbol, vector and ID tag depicting a target's position, course, speed and identity), when transponder tracking is included in the VTMIS5060*
- ✦ *Target track data*
- ✦ *Target and Buoy warning status*
- ✦ *Digitised radar video (Option)*
- ✦ *Data from other sensors in the VTMIS5060 (Option)*

➤ Local/Remote Operation

The VRD5060 can be supplied on either a fixed or portable computer for local or remote use. When used locally, the VRD5060 is connected directly to the VTMIS5060 LAN. For remote operation, the VRD5060 is connected to the VTMIS5060 LAN by a LAN-bridge. Communication links can include dedicated landlines, radio links, and dedicated telephone lines. Data rates of 56 kbps can be used, although for a larger VTMIS5060 and for display of radar video, the data rate must be adequate for the higher volume of data.

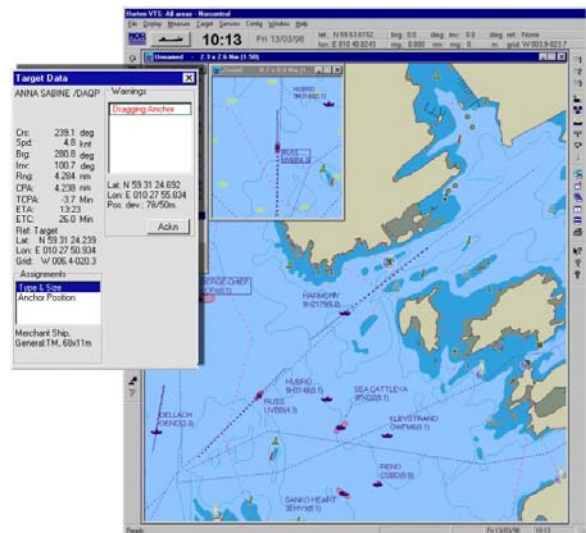
➤ User Interface

Information is displayed via Windows, using the Microsoft Windows 2000/XP® operating system. All windows are displayed with the same general layout and functionality. The large picture shows a typical VRD5060 window.

The user may display one or more chart windows at a time. Each window can display the whole chart or just a segment, depending on the range and centre selected for the window. A variety of overlays can be superimposed on the chart windows to show features such as coastline, depth, navigation channels, chart notes, target tracks and radar video.

➤ Tracked Targets

The VRD5060 is commonly used to obtain an overview of the vessel traffic situation. Those targets that are tracked within the VTMIS5060 are displayed as symbols in the chart window. Each symbol depicts a target's position, and an attached vector indicates the target's course and speed. Data for a selected target is presented in the Target Data dialogue.



Data for all targets can be presented via the Target List dialogue. With an optional printer, target data summaries can also be printed.

➤ Target Warnings

The VTMIS5060 Warning and Integration Server continuously checks tracked targets against a wide range of pre-defined warning criteria. If a target violates one of the warning criteria, a target warning is reported to the VOC5060 and is also available to the VRD5060. Such target warnings are

- ✦ *New / Lost Target*
- ✦ *Channel Exit / High Speed / Low Speed / Course Deviation / Encounter / Contravention*
- ✦ *Domain Intruder / Reporting Area Enter / Reporting Area Deviation / Turning Circle Deviation*
- ✦ *Grounding- / Collision- / Striking- Prediction*
- ✦ *Multipurpose Area Entering / Leaving / Inside / Outside / Approaching / High Speed / High Acceleration / High Deceleration*
- ✦ *Prohibited Anchoring / Leaving Anchorage / Dragging Anchor*
- ✦ *Sailing Route Distance / Course / ETA deviations*

For certain target warnings listed above, monitoring of a target is initiated by a target assignment given by the VTS operator (using the VOC5060). As the target is surveyed by the WIS5060, it is continuously checked for deviations from the assignment(s) it has been given. This information is displayed on the VRD5060. Typical target assignments are Navigation Channel, Anchor Position, Anchoring Area, Collision Survey, Domain Watch, Grounding Watch, Reporting Area, Turning Circle and Sailing Route.

➤ **Target Prediction**

Target Prediction allows for display of future target positions. Prediction targets are linked to the mother targets, from which they obtain speed and course.

➤ **Target Functions**

Target functions allow the user to select specific targets for different purposes, and to display and print target data.

- ✦ *Target Data: Displays a target data dialogue for the selected target. The Target Data dialogue identifies the target's course, speed, bearing, range, CPA, TCPA, position, warnings, assignments, etc.*
- ✦ *Select Target: Selects the target closest to the marker position*
- ✦ *Target List: Displays a list of all targets including positions, courses, speeds, warnings, etc.*
- ✦ *Target Prediction*

➤ **Sensors Functions**

Sensors functions are used for monitoring different sensor systems. Available status information depends on the actual sensor equipment installed. In all cases the sensor control selections are disabled for the VRD5060.

- ✦ *Selection of radar video sources for display*
- ✦ *AIS information*
- ✦ *Meteorological and Hydrological system information*
- ✦ *Closed Circuit Television (CCTV) images*

➤ **Help Features**

The VRD5060 includes context sensitive On-line Help functions describing the features and operation of the VRD5060 in detail.

➤ **Security**

VRD5060 workstations are - with regards to functional possibilities and operation - configured in four levels; Basic, Experienced, Expert and Administrator.

Technical Specifications

➤ **General**

- ✦ *Computer Type: Desktop PC*
- ✦ *LAN Connection: RJ-45*
- ✦ *LAN Protocol: IEEE Standard 802.3, 10/100BaseT*

➤ **Performance**

- ✦ *Maximum Number of Simultaneous Radar Video Sources for Display: 32*
- ✦ *Radar Video Display: 4 bits resolution. Up to 16 distinct levels of video can be displayed.*
- ✦ *Afterglow Adjustment: 0 to 254, and infinite number of scans*
- ✦ *Maximum Number of Integrated Targets: 2000*
- ✦ *Maximum Number of Surveyed Buoys: 250 per VET5070*
- ✦ *Maximum Number of Open Chart Windows: 10 per user*

➤ **Requirements for Remote Operation**

- ✦ *Communication Link: Dedicated telephone line or radio link.*
- ✦ *Bandwidth:*
 - Minimum 56 kbps recommended without display of radar video.
 - Minimum 64 kbps recommended per radar source for display of radar video.

Options

- ✦ **Optional Fixed Computer** - An Industry Standard PC is available as replacement for the standard computer.
- ✦ **Portable VRD5060** - A portable configuration of the VRD5060 is available.
- ✦ **Communications Equipment** - When used remotely, equipment such as LAN bridges or modems are required to suit the communications link.
- ✦ **Console** - The fixed version of the VRD5060 can be supplied with a standard or custom-designed workspace to house the computer equipment.
- ✦ **Printer** - A wide range of printers can be supplied.
- ✦ **Radar Video** - Digitised radar video may be presented on the VRD5060, dependent upon bandwidth of the communication link when the VRD5060 is used remotely.
- ✦ **AIS Information** - If such data is available from a VSS5060.
- ✦ **Meteorological and Hydrological Information** - If such data is available from a VSS5060.
- ✦ **CCTV Images** - If such images are available from a VSS5060.
- ✦ **Target Filtering and Category Symbols (AIS related)** - The Target Filter function enables for a temporary suppression of certain categories of targets. Dedicated target symbols are associated based on category.
- ✦ **Secondary Datum** - An optional dialogue bar is available for displaying an additional latitude/longitude reference for the marker and a selected target, using a predefined secondary datum.

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Kongsberg Norcontrol IT AS
PO Box 1024, N-3194 Horten, Norway
Phone: +47 33 08 48 00, Fax: +47 33 04 57 35

Email: webmaster@norcontrolit.com
Internet: www.kongsberg.com/eng/KDA/Norcontrolit/



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