

Planning the NavSat® Satellite System

Most of the requirements for planning the satellite TV system are the same as for a terrestrial system in terms of both system layout and antenna location. Please see the booklet "Facts About Satellite TV at Sea" published by Naval Electronics for more general information about satellite TV before planning the satellite system.

When planning a terrestrial NavSat® system, please contact Naval Electronics for project-specific information.

Antenna size

Generally speaking, the bigger antenna the better. Unfortunately the biggest antennas are too large, as well as too expensive, for normal installation on a merchant ship. It is therefore important to know where the ship will mostly be sailing and to compare the minimum required EIRP value for the selected antenna with the value published as a requirement by the satellite operator. Naval Electronics can give advice with updated information on this subject. Normally a NavSat 90 or NavSat 120 antenna is the choice. The larger antennas are generally for larger ships and passenger ferries.

Antenna location

Aside from being out of the way of radar beams and interfering objects, the antenna should be located as close to the receiver equipment as possible. The control wires to the antenna are not a limitation, since data are transferred in serial format. Signal loss from the LNB must however be kept as low as possible, either by using Naval's standard satellite TV cable or, if the distance is more than 30–40 metres, by using special, very low loss cable.

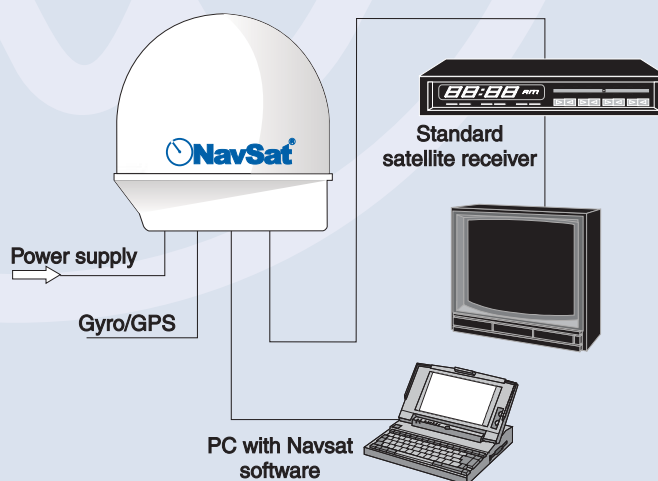
Distribution system and receiver configuration

Three standard configurations are explained in this leaflet. In addition to these three, Naval Electronics have long experience of special requirements and will be glad to suggest alternative solutions. The three standard configurations are:

- Single receiver connected to one TV set
- Multi switch distribution to a few TV sets
- Five channel receiver/modulator connected to regular distribution system for many TV sets.

Single receiver connected to one TV set

This is the standard configuration and needs very little further explanation. The cables from the satellite antenna are simply connected to the receiver and the system is easily controlled by the remote control of the receiver. It is possible to distribute the satellite programme received to other TV sets by a separate network, but all sets will then show the same satellite channel selected on the main satellite receiver.⇒



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Since 1971, the objective of Naval Electronics has been to offer the best possible products for TV and Radio reception at sea. Naval began with omnidirectional antennas and is the world leader in this field of technology today. Now, with an expanded product range, the name Naval means much more than antennas. Naval operates in more than 40 countries and has installations on thousands of vessels all over the world.

All specifications stated are subject to change without notice.



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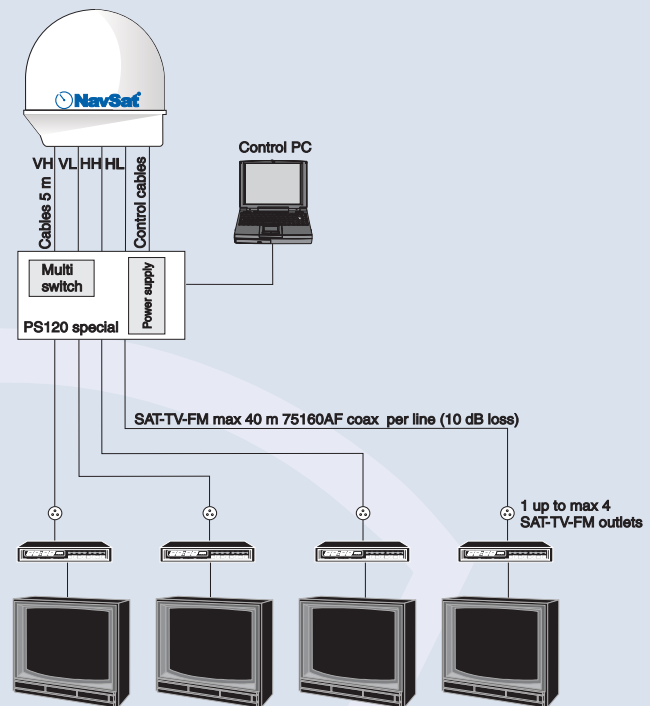
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Multi-switch distribution to a few TV sets

There are many variations on this theme, but the most common is with dual LNB inputs to the multi-switch and, say, TV sets in four messes aboard the ship.

More TV sets can be used, but this requires special care in network design. A separate satellite receiver is needed for each TV set. This means that any given set can receive any of the channels transmitted from the satellite. We recommend separate cabling for the satellite distribution system, since the frequency is up to 2 GHz and AM radio signals cannot be transferred through multiswitches.



Eight TV channels distributed on ship's standard distribution network

In this case eight receivers and modulators are used. They will receive eight satellite channels which are modulated and distributed over the ship's regular distribution system. This is the most elegant solution, with all eight channels available on all TV set on board. The satellites and channels can be very easily changed with a personal computer and accompanying user-friendly Windows software. To avoid interference from terrestrial TV it is advisable to distribute these channels on S channels (hyperband). This requires TV sets equipped for this, which most modern sets are. If this is the case, the signals can easily be combined with the output of the CAS3000 system. If less or more than eight channels are required the system is easy to modify.

