



## Cell phones at sea?

Convenience is driving virtually all of the major cruise lines to offer personal cell phone connectivity at sea.

In fact, by the end of 2007, personal cell phone services will be as commonplace on many ships as onboard Internet connections. Special global phones and expensive satellite phones will be a thing of the past for many cruisers.

To date, only Norwegian Cruise Line has implemented personal cell phone usage aboard its entire fleet of vessels. Royal Caribbean International offers cell phone service on ten of its 20 ships, including the brand new Freedom of the Seas. Carnival Cruise Line recently announced cell phone service is available on the Carnival Triumph cruise ship and will be available fleetwide by early next year.

In addition, a number of other cruise lines expect to offer the personal cell phone service on some or all of their ships by the end of next year. These include Celebrity Cruises, Crystal Cruises, Holland America, MSC, Oceania Cruises, Regent Seven Seas Cruises, Silverseas Cruises and Windstar Cruises.

Use of personal cell phones on cruise ships is being made possible through a combination of satellite and wireless technology. Guests must have GSM and CDMA phones that operate at 1900 MHz, which is standard in the United States.

When a person makes a call at sea, a cellular antennae on the ship relays the call to an onboard base station that then relays it to a satellite. The satellite relays the call to a base station on land, which sends it through its cellular network. The service is activated once a ship is 12 miles off shore.

In most cases, cruise guests are billed roaming rates set by their carrier, as if they were on land instead of the sea. This cost ranges from \$2-\$5 per minute based on the different roaming zones across the world. Cruise ship stateroom phones can run \$5 to \$25 per minute; some satellite phones charge \$10 per minute or more.