# Scanning The New AMTS Band

## *Some Folks Call it the "Maritime Cellular Band." An All-New Eavesdropping Adventure For You & Your Scanner!*

BY CHUCK ROBERTSON

Prepare to board and search, or search/scan! It starts at 216 MHz and ends at 220 MHz. It's the new nationwide Automated Maritime Telecommunications System (AMTS). They used to call it the Inland Waterways Communications System (IWCS), but AMTS is a new name that reflects its new broader agenda. It's not just "inland" any longer, now it's going nationwide!

AMTS is already operational along the Gulf of Mexico. Vessels and oil rigs as far as 70 miles offshore use the service. The Mississippi River and its huge system of tributaries are also fully covered by AMTS. I live in the southern part of Illinois, right between the Ohio and Mississippi Rivers, and the salty AMTS comms are going full blast.

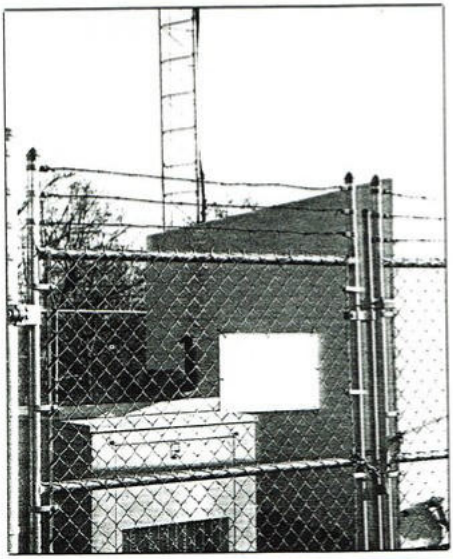
Very soon, AMTS networks will be operating along the East Coast, the West Coast, the Great Lakes, and most navigable waterways of the USA. Since the 216 to 220 MHz band is allocated for maritime use throughout the Americas, it's possible that such systems could eventually evolve in Canada, Mexico, and elsewhere.

Here's a look at this new nationwide marine radio band, with some scanning tips added for extra measure.

### *Rollin' Down The Repeater*

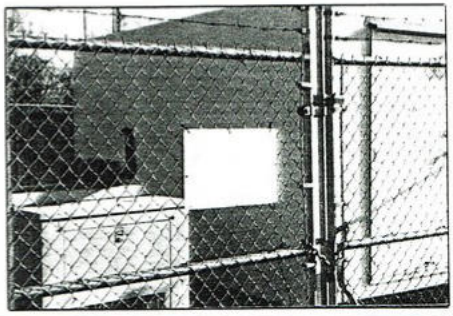
AMTS is similar in many ways to cellular car phones. As vessels move, their in-progress AMTS comms are automatically handed off to the nearest shore-based tower. But AMTS has more than this to offer.

The system is computer controlled, so that lets it have all kinds of fancy features like the ability to track vessels. If, for example, a company is concerned about the status of one of their vessels, they simply dial up a landline phone number and vital stats come back to them over the phone by FAX or



*Watercom's "Station 19" is located on Bald Knob Cross Road, near Alto Pass, IL. This is 10 miles east of the Mississippi River.*

*Closer view of the fence around "Station 19" shows a warning sign containing a toll-free number to call in case of emergencies. That's a gasoline powered generator over to the left.*



TTY. The information might include the vessel's location, estimated time of arrival at its next port, engine RPM's, fuel consumption, sea conditions, river levels, and the skipper's log entries.

The owner of many vessels can also use AMTS to send out a voice or data broadcast to all of the vessels in his fleet, or just to specifically selected vessels. This might be weather updates, river conditions, last minute port arrangements, etc. Vessels with AMTS have a printer terminal that operates around the clock, so data messages can be received even if there's nobody on watch in the pilot house or on the bridge.

And, yes, AMTS vessels can place and receive regular landline phone calls through their equipment, and they can also contact other AMTS-equipped vessels by voice. In fact, most of what there is to be monitored on this band consists of telephone calls and other voice comms.

Any maritime interest willing to pay for AMTS is entitled to use the service. So, that means all types of river boats, offshore oil rigs, shrimpers, trawlers, tankers, the Coast Guard, ferries, ore carriers, coastal tankers, work boats, cruise ships, harbor craft, barges, cable layers, dredges, and even some pleasure craft.

## Who? How? Where?

AMTS consists of 166 channel pairs (12.5 kHz spacing). Coastal stations operate between 216.0125 to 217.9875 MHz. Ships and offshore oil rigs operate between 218.0125 and 219.9875 MHz.

FCC Part 80 lists only 80 channel pairs (25 kHz spacing). However, a close reading of the fine print reveals that 12.5 kHz offset channels are also allowed. Always use a 12.5 kHz search increment while scanning for AMTS signals.

In my own area, where there is a typical system, the active full-duplex base frequencies are 217.1125, 217.125, 217.30, 217.3875, 217.4375, 217.475, 217.50, 217.6375, 217.70, and 217.8625 MHz. Control channels (continuous data) are on 217.0125, 217.2875, 217.7125, and 217.9375 MHz. Out of the ten voice channels, half are 12.5 kHz offsets.

All shore transmitters are limited to 50 watts maximum output. These are used with vertically polarized directional array antennas that boost the signals to 1 kW ERP (effective radiated output). Vessels use 10 watt transmitters.

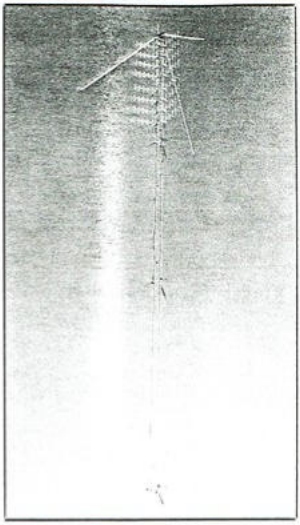
All transmissions are narrowband FM (NFM), so they should be able to be received on any standard scanners that include these frequencies. A regular multiband antenna should bring in the stations. A really super antenna would be an omni-directional type intended for 222 to 225 MHz ham band use.

AMTS is operated by one company, Watercom, Inc., 453 East Park Place, Jeffersonville, IN 47130. It has 54 active shore stations at this time. These are as far south as Florida, as far west as Texas, and as far north as Wisconsin.

Watercom maintenance and administrative comms are heard on 2087.4, 2183.4, 2783.4, 4117.1, 6520.2, 8726.5, 13105.3, and 17293.2 kHz USB. A remote transmitter site is at Lanesville, IN (14 miles west of Jeffersonville). Watercom is also licensed on VHF-FM channels 16, 24, and 26 (156.80, 161.80, and 161.90 MHz) from the Jeffersonville office, Jeffersonville, IN is directly on the Ohio River, across from Louisville, KY.

## TV Interference Problems

To avoid the possibilities of interference to TV broadcasts on TV Channels 10 and 13, AMTS operations near areas where those TV channels are active have some restrictions. In those areas, AMTS activities are restricted to 217.0125 to 217.9875 MHz and 219.0125 to 219.9875 MHz. Distance limitations vary with the situation (and the direction in which the AMTS antenna is aimed). AMTS stations beaming their signals offshore into the Gulf of Mexico are allowed to operate quite close to service areas of TV Channels 10 and 13. Inland stations may be limited to as much as 105 miles from the closest Channel 13 TV station, and 80 miles from the nearest Channel 10 TV station. The FCC is presently rethinking these limits and they will probably be reduced.



*Most Watercom AMTS towers are about 300 ft. tall, although the one in this photo is only about 180 ft. high. There are two antenna arrays, one aimed upriver, the other aimed downriver. The angle between the antenna arrays shown is determined by a bend in the river. The ERP from each array is 1 kW.*

If you live in an area where TV Channels 10 or 13 are active, you can limit your AMTS signal search to the restricted bands.

## More For Your Money

The 216 to 220 MHz is shared with government and non-government telemetry devices. These non-voice transmissions include those from remote seismographic sensors, wildlife tracking, sea buoys, oil exploration, and other scientific devices and associated telecommand equipment. Airborne wildlife telemetry is limited to the 216.00 to 216.10 MHz portion of the band.

## Get Set

Now that you know about AMTS, it can be added to your roster of bands to monitor. If you live near any navigable waterway, it will be a busy service once it gets up a full head of steam. This could still be a few months into the future in your particular area because this is a new service. So don't become disappointed if you monitor there today and you don't hear any activity. Keep trying. As time goes by, you'll hear things as systems begin activating.

This is the USA's first nationwide marine telephone network of its type. It should be playing on your scanner very soon. Bait your hook, and reel in those stations! ■