

This has been quite a year so far. With this centennial year of manned flight, there was the tragic loss from our nation's space program of the second entire Space Shuttle crew. It is unfortunate when these dangerous missions using leading edge technology become commonplace until a disaster makes the news. These brave men and women were anything but commonplace, and we all mourn their loss.

With the war in Iraq displacing just about all other news, with networks providing round the clock news coverage, we were privy to "you are there" views of battle from the cockpits of military aircraft on combat missions, from tank turrets in the desert, and from rooftops overlooking ground skirmishes below. The aftermath has been more subdued, as most of the big names in broadcasting have taken off their desert fatigues, combed their hair, put on business attire and returned to their talking head role behind a desk with hot coffee at their side.

These are just two instances that have brought telecommunications technology advances to the cornea of the public eye. Telecommunications plays a key role in the transfer of data to space program technologists monitoring system performance, to battle commanders—and to the public. The public knows more now about the mechanisms used for data transfer from the space shuttle systems to ground controllers. They have witnessed the firing of missiles from ships at sea toward the shore battle area during the actual event—quite different from the news reporting mechanisms used during the last gulf war, in which cell phones played such a major role. Now, from around the world, we can see real-time action snapshots/video to go with the reporter's sound bites—quite different from heretofore traditional after-the-fact media reporting.

Unfortunately, U.S. viewers are so tuned to the special effects nature of TV entertainment, that telecommunications technology sometimes appears geared to sensational entertainment vice reporting the total facts for viewer interpretation. In the case of the Iraqi war, for example, a more balanced, objective reporting of Iraq's leadership atrocities might have helped temper worldwide opinion at a time when the U.S and England were forced to go it alone. Among other charges against network reporting of the war, at least one reporter was fired when it was found that one of the photos he sent back for publication had been altered by digitally merging two photos to show quite a different picture from the less spectacular original. Unlike the Iraqi news service, which continued to falsely report the situation in the news to its people, we in the free world could have used our telecommunications superiority to present more even reporting.

Unfortunately, it's not the technology that's at fault. Technologists have little influence on how new advances in telecommunications and digital video, for example, will be applied by the media. That's when our role changes from technologist to public, consumer advocate to change the *misuse* of technology. Food for thought.

## Photo Ops

Pictures included in our anniversary issue and on page 14 of this issue show NARTE in action. In future issues, we'd like to provide more up to date photos of members at work (and play). Share your (captioned) pictures and we'll review for possible publication in future issues. No advertising content, please.

## Vote! Vote! Vote!

It's that time of year again. Don't delay—carefully detach the double-sided page 9-10 of this issue, vote for the candidates of your choice, fill in the membership information required, and get your ballot back to NARTE headquarters lickity-split! It must be postmarked no later than May 31, 2003 to be counted in the election tally for selection of your leadership up for election. We are counting on you!

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## Feedback Letters to the Editor

### "Static Crashes" or Short Wave Sky Wave Propagation?

Dear Editor:

A note on Donald Kimberlin's article on Marconi's *Mystery in the Winter 2002-2003 NARTE NEWS*.

Before Guglielmo Marconi was born, Mahlon Loomis had demonstrated wireless telegraphy over approximately a 14 mile path and had written about spanning the Atlantic with wireless telegraphy. He received a US patent for his wireless on 30 July 1872. So the ideas and concepts are not new. But let's address Marconi's demonstration.

In the May, 1985 Ham Radio Magazine, Bill Orr (the proliferate writer of many books and articles on antennas and radios, and the editor of the *Radio Handbook*), addressed the issue of Marconi's trans-Atlantic test. As we all know and Mr. Kimberlin points out, it is highly unlikely that propagation at 820 or 850 kHz (the estimated fundamental frequency of the Poldhu transmitter) would be detectable with Marconi's receivers. The description of the events in Bill Orr's article indicated that Marconi and Mr. Kemp did not hear just three dots (the letter "S"), but rather a series of three repetitive clicks in the static clashes. It was this rhythmic sequence of repetitive clicks that apparently convinced Marconi and his assistant that they had received the signals. So how was this possible?

Consider what the emission spectrum of Marconi's spark gap transmitter must have been. In particular, what levels were being radiated at the 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> and higher harmonics. If these harmonic levels were, say, -20 to -15 dB, there would have been several hundred watts radiated at "short wave" frequencies. Also, it is noted that the reception was on an untuned receiver. Mr. Orr's suggestion is that what occurred is that Marconi was receiving harmonics of his transmitters possibly in the 3 to 5 MHz range. Of course he had no idea what was happening, and radio developments in the short term after his experiments went to longer wavelengths for enhanced range. The "experts" in the 1901-1915 era considered wavelengths less than 200 meters as useless. Kimberlin in his article states that "the chances of any HF transmission from Poldhu have been rather effectively ruled out." This seems to be based on the modeling of the antenna based

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