

ATTENTION ALL AGENTS!

Crypto Transmission from KPH!

The Maritime Radio Historical Society, in cooperation with our good friends at the [Cipher History Museum](#), present a unique, over-the-air cryptographic challenge.

On January 20 2024, KPH will transmit a coded message consisting of 5-digit groups. The message will be encrypted using typical Cold War numbers station cryptographic procedures. All KPH listeners are invited to try their hand at receiving and decrypting the message. Certificates will be awarded to those who successfully decode the message. Additionally, a special certificate will be awarded to the first person to decode it.

Background

"Numbers Stations? It's said that they're relics from the Cold War; a way for various intelligence services to communicate with agents in the field. The truth... well, you're not actually cleared for what the truth is." — Agent Johnson, Fugue State

During the Cold War era, 'Numbers Stations' were frequently heard on the shortwave bands by radio amateurs and SWLs. Using voice or Morse code, these stations would broadcast encrypted messages in the form of five-letter groups of numbers.

Although the Cold War has ended (*has it?*), there are still active numbers stations and new ones keep appearing, broadcasting covert messages from secret and officially non-existing radio installations. Who is listening to them? That remains a mystery.

The encryption methods used by number stations are widely believed to use a one-time pad (OTP) procedure: the simple addition (or subtraction) of a set of random numbers from the OTP to encode (or decode) the plaintext. Once used, the OTP key was never re-used and destroyed after use. Number stations still offer a powerful advantage in our modern world: provably unbreakable security and complete anonymity. All the recipient needs are the OTP, a shortwave radio, and to be on the right frequency at the right time.

You say your tradecraft procedures are a bit rusty? Perhaps you have mislaid your code book? Normally you'd be recalled, and provide explanations once you return to Langley. However, there's good news! MRHS is here to help. At great cost, we have managed to intercept a copy of the OTP that was used to encode the message. Please find the link below for the decode procedure and further information.

Numbers Broadcast: Date, Time and Formats

The numbers broadcast will commence at 2100Z (1300 PST) on 20 January 2024 on all KPH CW and RTTY frequencies. The CW frequencies are (in kilocycles): 425.0, 6477.5, 8642.0, 12808.5, 17016.8, and 22477.5 . Upon completion of the CW transmission, the broadcast will be

repeated using RTTY (170cps shift, 45 baud) on the following frequencies: 6324.5, 8427.0 and 12585.5 kcs.

Certificates

Certificates of Cryptographic Excellence will be awarded upon proof of successful decode of the Numbers Message. A special certificate will be awarded to the first Agent to manually decode the message (i.e. using pen and paper, without the use of a computer program).

Rules for Certificates

1. 72-hour time Limit: Numbers messages are time-sensitive! Your decoded message must be received at the email address below within 72 hours (i.e. before 2000Z (1300 Pacific) on 23 January 2024.
2. Group Efforts: While MRHS encourages group efforts, only one certificate will be awarded per group.
3. The Numbers Message is top-secret! Please do not share the encoded Numbers Message or decrypted message before the 72-hour time-limit has expired. Only apply for a certificate if you or your team have actually received the message over the air (or on a web-based SDR) and decrypted the message yourself.

To apply for a certificate, send email to crypto@radiomarine.org with the subject line 'Decoded Numbers Message'. Please include the following:

- The decoded message in plaintext, **properly re-formatted into words**.
- The frequency and location where the Numbers Message intercepted. Signal reports are encouraged!
- The exact name you wish to have on your certificate.

Certificates of 'Cryptographic Excellence' will be awarded to all Agents who demonstrate a successful decode of the Numbers Message. These certificates will be emailed in digital form suitable for printing at home. A special hand-signed certificate, embossed with the MRHS seal, will be awarded for 'First-to-Decode'. This award will be based on the timestamp of the first email demonstrating a successful decode.

Instructions for decoding the Numbers Message

For helpful instructions on decoding numbers messages and related one-time pad procedures, please visit the [Mission Critical Information](#) page

IMPORTANT: in addition to the above instructions, you will also need three items: the *one-time pad* (OTP), a *conversion chart* and the *codebook*. These items are available at the [Mission Critical Information](#) page

Further Information

For more information or questions about the KPH Numbers Broadcast send email to crypto@radiomarine.org.

VY 73 es GL,

Maritime Radio Historical Society

BURN AFTER READING

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