



THE VOYAGER AND PIONEER PROBES AREN'T DIRECTED TOWARDS A PARTICULAR LOCATION, AND ARE CURRENTLY FLOATING AIMLESSLY THROUGH INTERSTELLAR SPACE.

THIS BROADCAST WASN'T AIMED AT A PARTICULAR LOCATION.

# Cosmic Calls

A HISTORY OF REACHING OUT TO EXTRATERRESTRIAL INTELLIGENCE

"Where is everybody?", asked physicist Enrico Fermi in 1950, referring to a contradiction between the statistical probability of other intelligent life in our universe and the puzzling lack of any evidence for it. The question mystifies science to this day, but hasn't stopped us reaching out into the darkness in an attempt to make contact. This visualization explores the messages we've beamed into the cosmos over the last sixty years. Some are serious scientific endeavours, others less so. Together they represent a time capsule of our planet, our species and our values, and while the contents and destinations may differ, they all carry a singular message; "here we are".

**Reading the Data Visualization**

- Messages are listed around the circle chronologically, with the lines mapping broadcasts to their destination.
- Constellation
- Year of arrival
- Message name, year sent and country of origin

**1 Morse Message**  
The first ever radio broadcast meant for extraterrestrial civilizations featured the words 'MIR', meaning peace in Russian, 'LENIN' and 'SSSR'.

**2 Pioneer 10 / Pioneer 11**  
Both probes have a plaque depicting, among other things, human figures, a map of our solar system and the Sun's position relative to adjacent stars.

**3**

**4 Arecibo message**  
Maybe the most famous interstellar broadcast, it included the numbers 1-10, atomic numbers for the elements that make up DNA, a visual of a human and a map of our solar system.

**5 Voyager 1 / Voyager 2**  
Each probe has an audio-visual disc with images of Earth and its lifeforms, scientific information, spoken greetings, music and other sounds.

**7 Poetica Vaginal**  
The sounds of the vaginal contractions of ballet dancers. Only a few minutes were transmitted before the U.S. Air Force shut the project down.

**8 Cosmic Call 1 / Cosmic Call 2**  
Included a primer explaining basic aspects of human math, science, and biology, followed by digitized drawings, texts, videos and songs.

**10**

**9 Teen Age Message**  
Featured a theremin concert, images and text. So named because the content was largely provided by teenagers from Russia.

**11 Craigslist Messages**  
Over 100,000 postings from craigslist.org. The message also included a time stamp, and an audio track identifying the message as originating from Earth.

**12 A Message From Earth**  
This broadcast included 501 messages, pictures and drawings that were posted on the social networking site Bebo and selected by its users.

**13 Across the Universe**  
Consisted of the song "Across the Universe" by The Beatles, marking the 40th anniversary of the song and the 50th anniversary of NASA.

**14 Doritos Advert**  
The advert, featuring some doritos dancing around a jar of salsa, was broadcast on repeat for six hours, which will no doubt prove fairly confusing for any inhabitants of the star system 47 Ursae Majoris.

**15 The Day the Earth Stood Still**  
As part of the marketing for the 2008 remake, 20th Century Fox beamed the entire movie to Alpha Centauri.

**16 Hello From Earth**  
A collection of goodwill messages from members of the public curated by Australian science magazine, Cosmos.

**17 RuBisCo Message**  
To mark 35 years since the Arecibo message, this broadcast featured a depiction of 'RuBisCo', maybe the most common protein molecule found in Earth's lifeforms.

**18 Break the Eerie Silence**  
Penguin UK broadcast 5000 messages solicited from the public, to mark the launch of the book 'The Eerie Silence: Are We Alone in the Universe?'

**19 Wow! Reply**  
Around 10,000 tweets and celebrity video messages, for the promotion of a Nat Geo TV show. Named after the 'Wow! Signal', a mysterious radio signal received in 1977.

**20 Lone Signal**  
Consisted of brief, 144-character statements by the public that were posted to the Lone Signal website.

**21 A Simple Response to an Elemental Message**  
3775 responses to the question; "How will our present, environmental interactions shape the future?" Also included a series of images of Earth.

**22 Sónar Calling GJ273b**  
To celebrate its 25th anniversary, Sónar Festival broadcast a series of 33 pieces of music to 'Luyten's Star'.

Note: Broadcasts are often directed to specific stars, for the purposes of the visualization only constellations are shown.  
Sources: Wikipedia, New Scientist, Mental Floss, MIT and Atlas Obscura.