# STAR TREK™

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**47**

SUBSPACE RELAY STATION

## RELAY STATION 47
### SPECIAL ISSUE

- SUBSPACE STATION
- ACTIVE: 2369
- SUBSPACE NETWORK
- COMMAND: KEITH ROCHA

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## Stand assembly



Slot base of model on to stand.

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# RELAY STATION 47
## SPECIFICATION
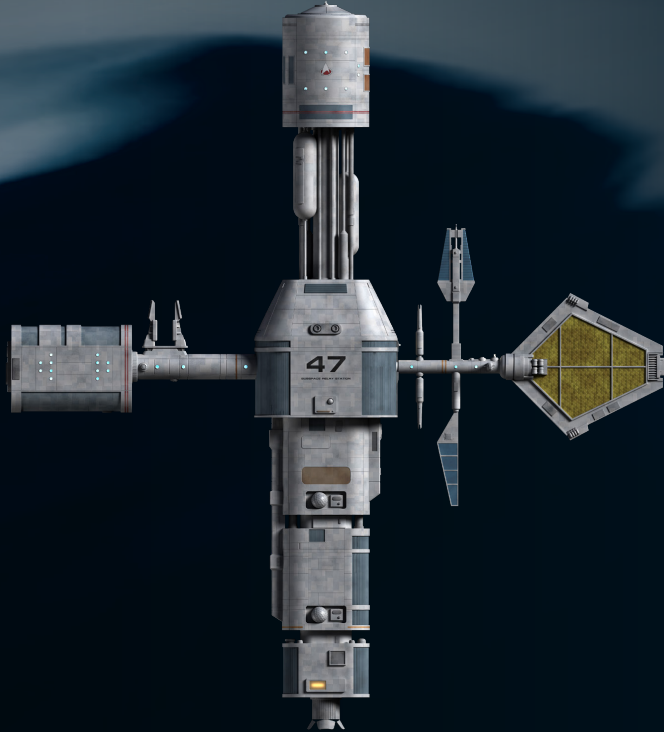
| | |
|---|---|
| TYPE: | SUBSPACE RELAY |
| FUNCTION: | COMMUNICATIONS |
| LOCATION: | IPAI SECTOR |
| ACTIVE: | 2369 |
| COMMAND: | LT. KEITH ROCHA |

*SUBSPACE RELAY*
# STATION 47

Relay stations were a vital part of Starfleet's faster-than-light communications network.
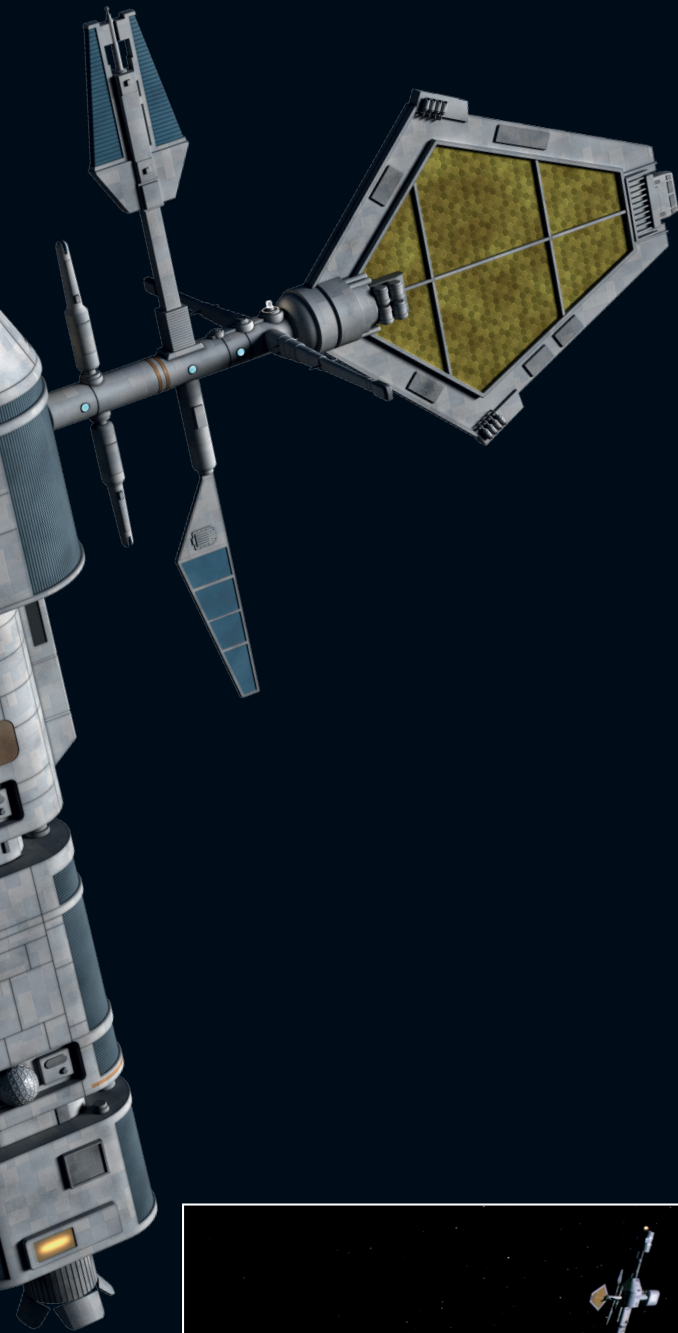
Subspace Relay Station 47 was a manned communications facility in the Ipai sector at the edge of Federation space near the border with the Klingon Empire. It was responsible for relaying and amplifying communications traffic from Federation planets and starships, transmitting them through subspace so that they could travel faster than light. At any one point it was handling thousands of messages, which included encrypted signals.

The station had a crew of two, who were responsible for routine maintenance and for upgrading the major systems. In 2369, that crew consisted of Lieutenants Keith Rocha and Aquiel Uhnari, who overhauled all of the station's primary systems, configuring the relay controller grid, and recalibrating and realigning the antennae systems. They reported that the station wasn't capable of coping with the volume of traffic it was processing and requested a message delay buffer.

The failing wasn't fatal as the station was part
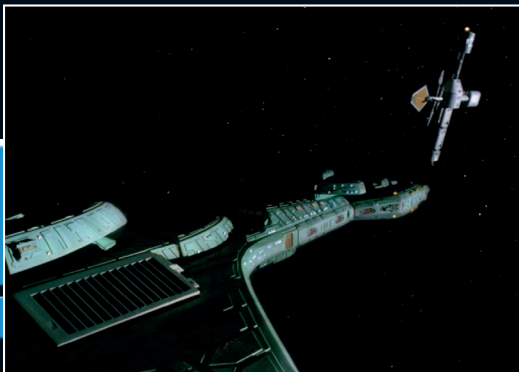


◄ Relay Station 47 was on the border with the Klingon Empire, and although there was peace between the Klingons and the Federation, there were still times when things were tense.

◄ Relay Station 47 was part of Starfleet's extensive subspace communications network. Sending messages through subspace allows them to travel faster than light, making it possible for warp capable ships to communicate with one another and distant planets without long delays. As Federation ships explore the Galaxy, they deploy subspace relays that extend the network. These are then supplemented with larger, manned facilities that can route and amplify larger volumes of traffic. Stations like this are an essential part of 24th-century communications.







◄ The station's position on the Klingon border drew the attention of Commander Morag, who the Starfleet crew described as harassing them.

► The *Enterprise* crew investigated what happened by looking at Lt. Uhnari's logs. They discovered that she had a difficult relationship with Lt. Rocha.

▲ In 2369, the *U.S.S. Enterprise* visited Relay Station 47 on a routine supply run, but when they arrived they discovered that the station was abandoned, its shuttle was missing and the database was locked up.

of a network with built in redundancies, and, if it was offline for any reason, its signal traffic could be re-routed to another nearby subspace relay. The crew could also cover for other parts of the network. When Relay Station 194 shut down for routine maintenance, Lt. Uhnari agreed to take their comms traffic for 24 hours.

The interior of the station maintained gravity and a breathable atmosphere. It consisted of a central control room on two levels with a wide variety of consoles that could be used to monitor the incoming and outgoing traffic. Both the station personnel were provided with individual quarters with a bed and personal computer access.

The crew assigned to the station had a tour of a year. Communications systems in their crew quarters allowed them to communicate with others, but the station itself had limited facilities. The station had a single shuttle that could be used

to travel to other facilities. The nearest Federation facility was Starbase 212.

The station's position near the Klingon border attracted the attention of the Empire. A Klingon commander, Morag, who patrolled the area would pass through the area every six days and routinely hailed the station. He was extremely aggressive and on one occasion even locked his disruptors on the station before backing down and leaving.

## MYSTERY STATION

On stardate 46461.3, the *U.S.S. Enterprise* NCC-1701-D visited the station to make a routine supply run. When they arrived, they discovered that it had been abandoned and that someone had removed 27 priority Starfleet messages from the encrypted databank. This had activated the security lockouts and caused a cascade effect

◀▶ The station's job was to relay a vast number of messages through subspace. Most of the interior was given over to computer consoles that could be used to monitor communications traffic and the condition of the station's systems. The crew could access most of the communications, although some of it was encrypted. When the Klingons attempted to 'steal' some data they tripped security protocols that locked the database and scrambled most of the logs.







▶ Two Starfleet officers were permanently assigned to the station on year-long tours of duty. They were each given quarters that they could decorate with their personal possessions. A computer console allowed them to send and receive messages, and to record their personal logs. The length of the tour made it a particularly tough assignment.



on the storage system that made it difficult to find any of the remaining messages until the database had been reconstructed. The station's shuttle was missing and there was a biological residue that the *Enterprise*'s medical team eventually determined belonged to Rocha, who appeared to have been disintegrated.

After an investigation, it transpired that Rocha had been replaced by a coalescent life form which had replicated his DNA. When the creature had tried to kill Uhnari and take her place, she had killed it with a phaser, but not before it had interfered with her memories, which it was attempting to replicate. She fled the station in a panic. When Morag had returned to the station, he had found it was abandoned and came aboard to look for intelligence. He had removed the encrypted messages causing the system to lock up.



## DATA FEED

Lt. Aquiel Uhnari was stationed on Relay Station 47 during 2369. She was a Hallian who liked Muskan seed punch and reading Gothic novels such as 'Cold Moon Over Blackwater,' a book that provided the name for her dog Maura. She was far from an ideal officer. Her commander on her previous assignment on Deriben V found her argumentative and quick to take offence so asked for her to reassigned.

She had a difficult relationship with her superior officer, Keith Rocha, who she considered to be "rude, arrogant and condescending." She later learned that his behavior may have been unusual because he had been replaced by a coalescent life form that could mimic his DNA perfectly.
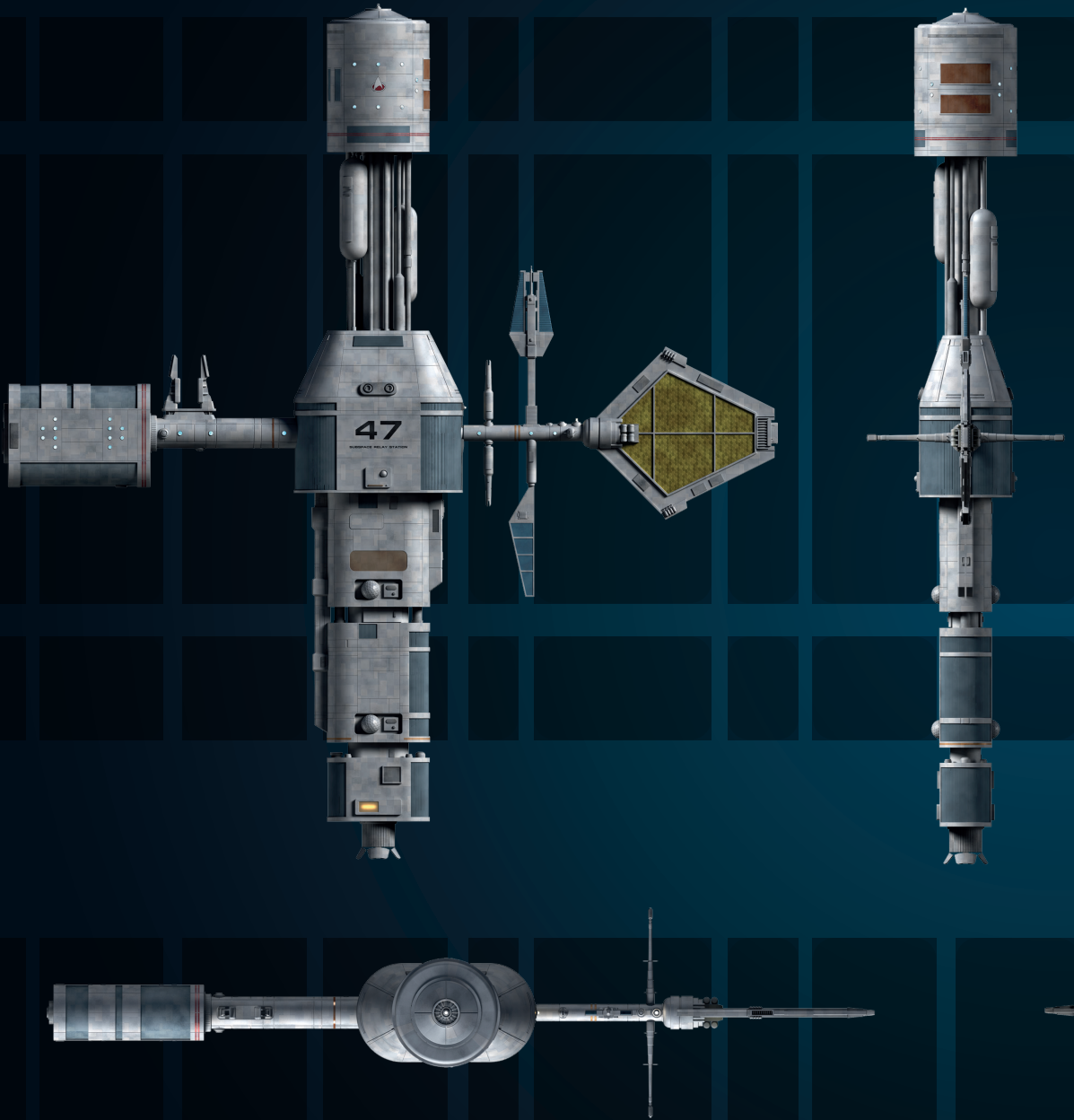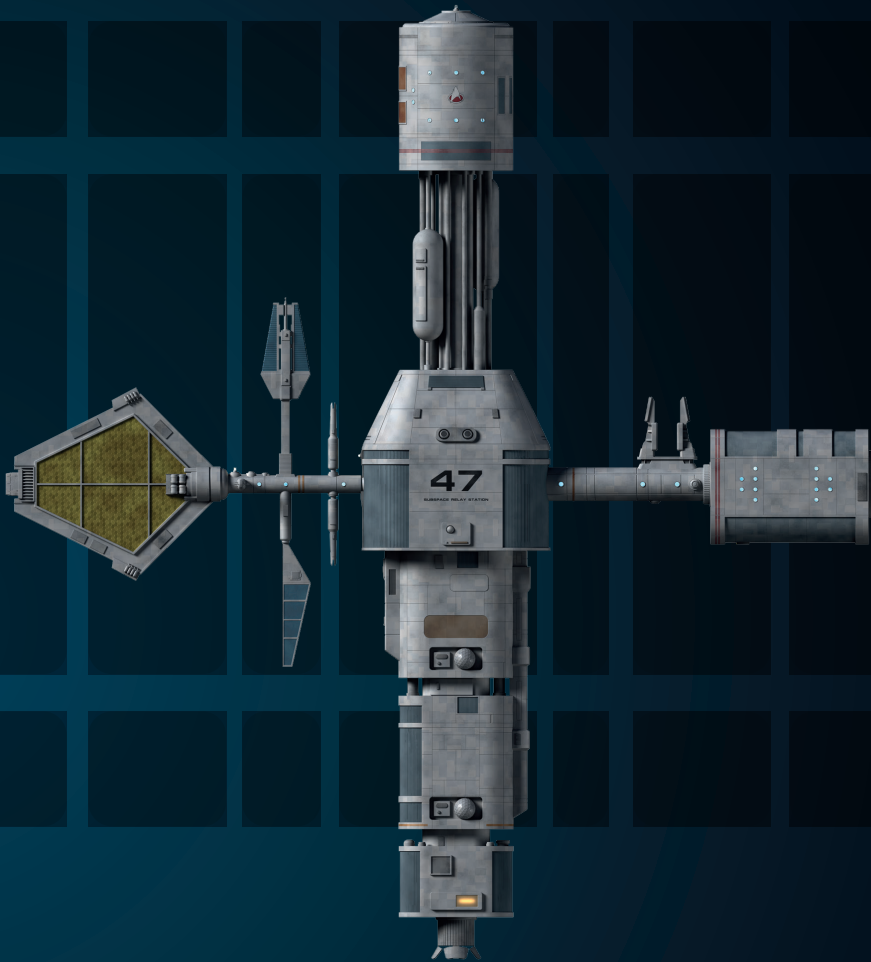
## HUGE NETWORK

Subspace relay stations communicate with a network of unmanned subspace relays and with any ships that are in range. Ships exploring new regions of space deploy more relays connecting them to home.

## SUBSPACE SIGNALS

Subspace is a region or dimension where the normal limitations of four-dimensional physics don't apply and signals can travel faster than light. Most Federation communications are sent through it, even over relatively short distances.
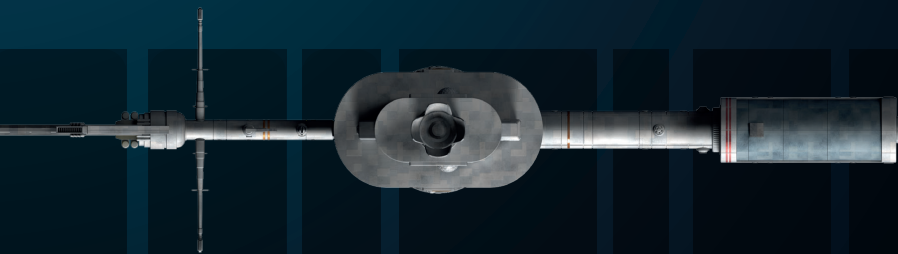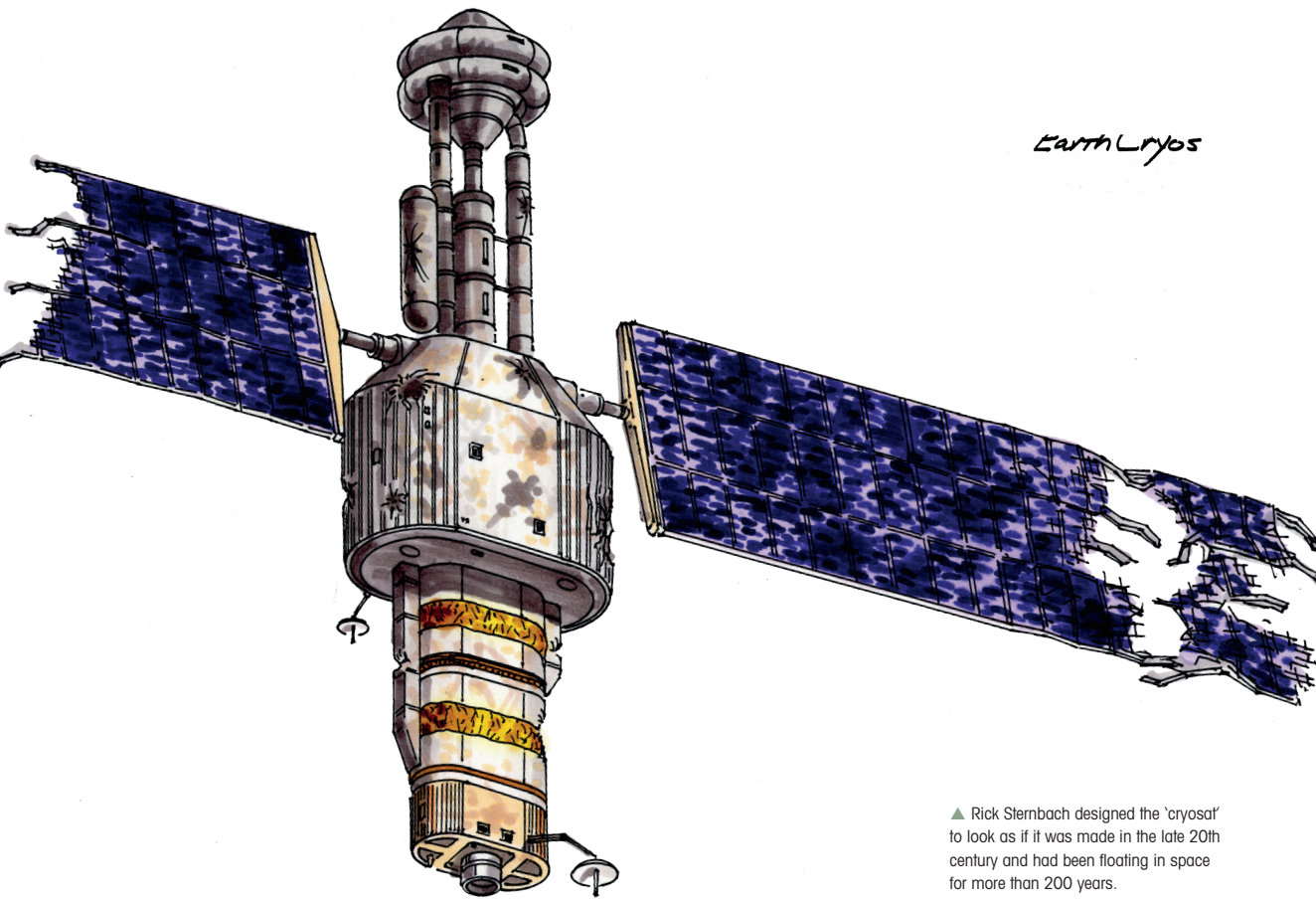
*Earth Lryos*

# DESIGNING THE
# RELAY STATION

The subspace relay station started life as a 20th-century satellite before it was brought out of cold storage and given a new life.

Work on Relay Station 47 started more than four years before it appeared on screen. At the end of *STAR TREK: THE NEXT GENERATION*'s first season, the script for 'The Neutral Zone' called for the crew to find a 20th-century satellite that had been drifting in space. Since the VFX team didn't have an appropriate model

and budgets were tight, the art department pitched in to build something. Rick Sternbach drew up a quick concept sketch for a satellite that he could imagine being built in the near future, "The thinking behind the cryostat," he explains, "was that we needed an older, NASA-ish styling that you couldn't confuse with the more

modern Starfleet hardware, especially with the solar arrays that I gave it." Sternbach goes on to explain that he was very comfortable basing the design on modern technology. He has always had an interest in the real-world science of space exploration, so had some ideas about how it might work in the 'near' future. "A basic working knowledge of

space vehicles and systems and tech in general has served me well over the decades. In the case of the cryosat, I could imagine how engineering advances would shape the hardware. The upper end of the cryosat was a pair of some type of advanced power cells that could be kept charged by the solar arrays, or even an early Tokamak microfusion system that kept the cryo equipment running at some low level, with the solar arrays as a backup."

Once Sternbach's concept drawing had been approved, he and Mike Okuda set about building it. "We used a lot of Plastruct styrene parts," Okuda remembers, "plus some random bits that we purchased at a local hobby store. I think Rick used some wooden beads for the tanks on one end of the station. I made the solar wings from Plastruct sheets, using a square cross-sectioned brass tube for the frame. I spent the most time distressing the panels to show them partially destroyed. If I recall, we had a brass tube running through the middle of the model that we used to mount them."

Once the model was finished, the two men named it the *S.S. Birdseye* – since the people inside were deep frozen – and handed it over to the VFX team.

Four years later, the script for 'Aquiel' called for a small space station. This kind of model was still in short supply since small, Federation stations were very rarely seen. By this point, Sternbach had designed a relay station for the '*STAR TREK: THE NEXT GENERATION* Technical Manual,' but it didn't look as if it was manned and, as usual, the budgets were tight, so the cryo satellite was pulled out of storage and adapted. "We had a book that listed all the models," recalls VFX supervisor Ron B. Moore. "I can't remember who did it, but we adapted the old satellite to make it look like the relay station."

The major change made to the



▲ The main body of Relay Station 47 started life as the cryo satellite that was built for 'The Neutral Zone.' The model was designed and built in the art department by Rick Sternbach and Mike Okuda.



▲ When the model was converted into Relay Station 47, the arms were replaced with subspace antennae and the decals were changed. It was then filmed on the motion control stages at Image-G.

model involved removing the distressed solar panels and adding something that looked more like a subspace antenna. Moore remembers particularly enjoying the episode because it involved some VFX shots that were far from typical at the time. Instead of showing the entire model from head to toe, they were able to crop in on it and show the *Enterprise* behind it, and, whereas most *STAR TREK* models were stationary, the model shots showed the relay station rotating, passing in and out of the light. "I loved shooting with that model," Moore smiles, "because it had the paddles and we were able to rotate it." The model then went back into storage, never to be needed again.

# 47

# NUMBER

If you watch *STAR TREK* closely enough you'll discover that the number 47 appears too often for it to be completely random…

▲ Whenever STAR TREK's writers or graphics team needed a number they fell back on an old favorite.

It's no accident that Aquiel Uhnari is based on Subspace Relay Station 47 rather than 46 or 48. If you start looking for it, you'll find the number 47 in countless episodes of *STAR TREK*. Some of the appearances are accidental, but from TNG's fourth season onwards the chances are that they are part of an in-joke that has ended up lasting for decades. It all started with one of *STAR TREK*'s most prolific writers, Joe Menosky, who began writing for

TNG in its fourth season. Often the scripts would call for a random number: say the number of times something would show up in a database or the name of a relay station. In Menosky's third script 'The Nth Degree' he had Data report that the shields would fail in 47 seconds. Then a few episodes later he wrote that there were 47 references to the word 'Darmok' in the *Enterprise*'s linguistic database.
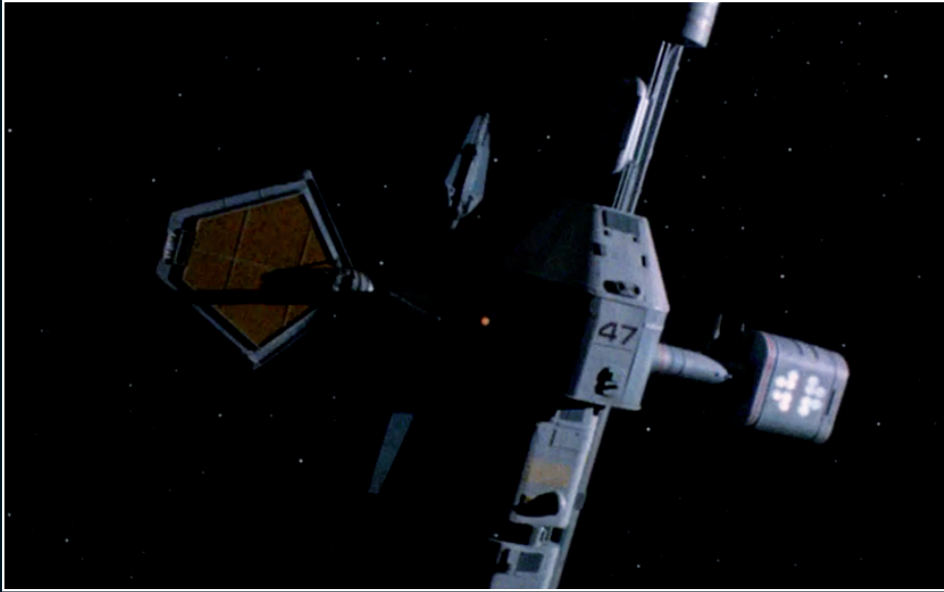
◄ Relay Station 47 from the sixth season episode 'Aquiel' is only one of the many times that the number 47 has cropped up in *STAR TREK*.

It turns out Menosky didn't choose the number 47 at random. He graduated from Pomona College in California, an institution that has an even more profound relationship with the number 47 than *STAR TREK* does. The exact origins of the college's obsession are a little unclear. In 1964 two Pomona students, Laurens Mets and Bruce Elgin, noticed the number 47 cropping up more often than they would expect. As a result, they started a light-hearted exploration into whether 47 appeared in nature more often than other numbers. By the end of the summer they claimed to have found 47 examples.

That same year, a member of the faculty Donald Bentley used the number 47 in a proof that demonstrated that algebra could be used to show that any two numbers were equal to one another. The students latched on to the idea, claiming tongue in cheek that 47 was a mystical number that was equal to all others.

They were able to find plenty of examples of 47's significance in history: in the New Testament Jesus performs 47 miracles; there are 47 sentences in the Declaration of Independence and Pomona College itself is off Exit 47 of the I-10.

This insight into the importance of 47 was



▲ The first time Joe Menosky used the number 47 in a script was in 'The Nth Degree' when Data reports the shields will fail in 47 seconds.



▲ In Menosky's most celebrated script, 'Darmok,' Troi finds 47 references to the word 'Darmok' in the linguistic database.

▲ In the fifth season TNG episode 'The Game' an ecstatic Nurse Ogawa tells Wesley that she has reached level 47.
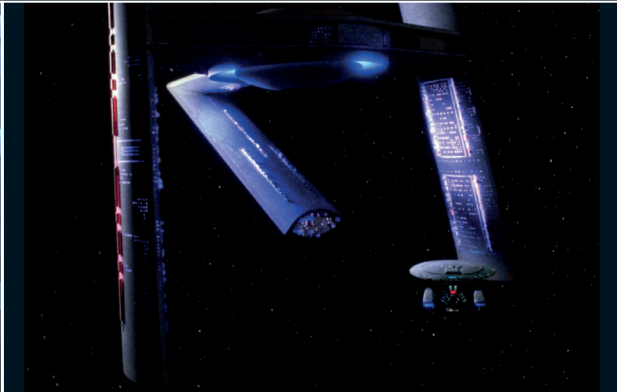


▲ In 'Conundrum' the crew are brainwashed and tricked into attacking Lysian Central Command which is defended by 47 sentry pods.

something that marked Pomona's students apart from the rest of the world. As the college's professor of psychology explained, it provided a bond between them like a secret handshake. So, when Menosky, who graduated from Pomona in 1979, needed a random number, it was natural that he thought of 47, and STAR TREK needed a lot of numbers: there were computer programs to be named, casualties to report and frequent references to the state of the shields. When he did an uncredited rewrite of 'Conundrum,' he put 47 Lysian probes around the perimeter of Lysian Central Command, and referred to holodeck program 47-C.

The other writers soon picked up on the joke. Because of the way STAR TREK scripts were written,

it's impossible to know whether Menosky was adding the number when he suggested rewrites as he was commenting on other people's scripts, or whether the idea infected his colleagues from the beginning, but before long 47 was making a significant number of appearances. Brannon Braga was the first to join the party, In 'The Game,' he had Nurse Ogawa say that she had reached "Level 47" and in 'Imaginary Friend' the Enterprise investigates the FGC-47 nebula. In the very next episode, 'I,Borg,' written by Rene Echevarria, the crew develop a virus that will give the Borg individuality. Its name is 'Topological Anomaly 4747.'

It didn't stop with the writers. The art department realised what was happening and before long the



▲ In 'Time's Arrow' Mark Twain passes on a message to Captain Picard, telling him to adjust phaser to frequency of 0.47 to activate the Ophidian.



▲ When Riker thinks he is in an insane asylum in 'Frame of Mind,' the alien doctor tells him that he is being held on Ward 47 of the Tilonius Institute for Mental Disorders.

▲ 'Imaginary Friend' opens with the Enterprise investigating Nebula FGC-47, which has formed around a neutron star.
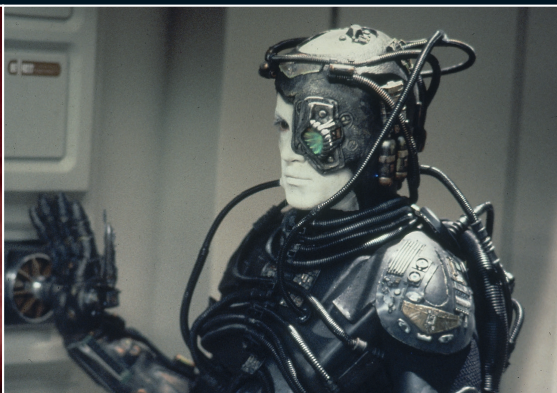


▲ In 'I,Borg' the crew retrieve a Borg drone, who they name Hugh. They consider infecting him with Topological Anomaly 4747 which will give the Borg individuality.

number 47 started to appear in graphics. It might be on a panel on a medical scanner as it is in 'Realm of Fear' or a seemingly random number on a screen in the classroom we see in 'Rascals.' The number was worked into graphics so frequently that no-one could keep track of how many times it appeared.

### THE 47 INFECTION

The joke grew to such proportions that by TNG's sixth season, Subspace Relay Station 47 was one of a dozen or so appearances that the number 47 made in the course of 26 episodes: a phaser is adjusted to a frequency of 0.47; Geordi uses quantum resonance scan 047 and Data is knocked out for 47 seconds.

When STAR TREK: DEEP SPACE NINE started up the number 47 was transplanted to Bajoran space. At first, it mostly made appearances in graphics, but when several members of the TNG writing staff, including Ron D. Moore, joined the DS9 staff in the third season 47 started to make more and more appearances in dialogue, whether it was the number of times O'Brien had beaten Bashir at darts or the number of minutes, the number of a Padd Jake was using to write a story or the number of minutes to the next dimensional shift on the planet Meridian. However, Moore reported in an AOL chat that the number of appearances started to decrease as the writers tired of the inside joke.
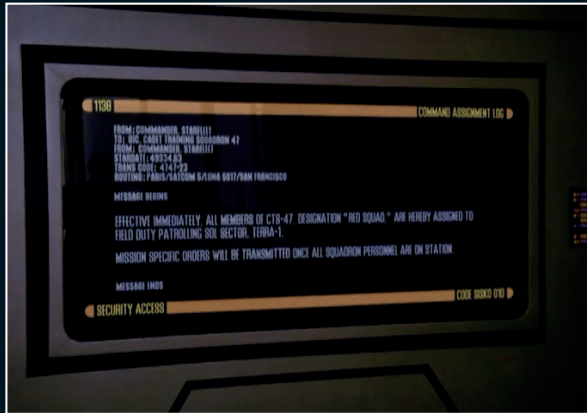
But it was on STAR TREK: VOYAGER that the



▲ In 'Descent' Lore and his faction of renegade Borg drones traps 47 members of the Enterprise crew with them on the planet.



▲ In 'Emergence' a new life form comes into being in the Enterprise's cargo bay. As a result, the ship's warp power drops by 47 percent.

▲ In 'Homefront' Sisko and Odo break into Admiral Leyton's files. The screen they access shows several references to the number 47.



▲ In 'Apocalypse Rising' Dax briefs her crewmates on their weapon in the war against the Changelings: Polaron Emitter Prototype X-47

number 47 made the most appearances. This isn't surprising given that Menosky joined the writing staff during the third season, but 47 started appearing long before that, almost certainly because of Braga's presence. In the pilot the interval between the energy pulses the Caretaker is sending to the Ocampa planet increases by 0.47 seconds. We soon learn that the EMH is programmed with the collective experience of 47 medical officers and he communicates with the captain on channel 47, the emergency medical channel. In 'Phage' Neelix has 47 minutes to live. In 'Learning Curve' when the bioneural gel packs are infected only 47 are left functioning. In 'Non

Sequitur' Harry Kim works in subsection 47  and so on and on until the final episode, 'Endgame' when *Voyager* enters a nebula that contains at least 47 Borg vessels.

**BACK IN TIME**
Menosky didn't make the move to *STAR TREK: ENTERPRISE* but Braga did, and so did the number 47. In 'Fortunate Son'  Travis tells a crewman to "try bypassing circuit L-47" and four years later, in 'In A Mirror Darkly, Part II' T'Pol says that the 47 crewmen from the *I.S.S. Enterprise* NX-01 are barely enough to operate the *U.S.S. Defiant.* The last reference is in 'Terra Prime' where the human-



▲ When Voyager enters the nebula in 'Endgame' Seven warns Captain Janeway that are at least 47 Borg vessels inside it.



▲ In 'Union' Trip and Reed are trapped on a Romulan drone. It will take the Enterprise 47 minutes to intercept them.

▲ VOYAGER's Emergency Medical Hologram is programmed with the combined experiences of 47 medical officers.



▲ In 'Distant Origin' Professor Gegen discovers that the Voth share 47 genetic markers with human beings.

Vulcan hybrid baby is being held in a room that is labelled 03-47. There are plenty of appearances in between often on graphics.

Inevitably, the world at large spotted the number of times 47 appeared. The inside joke became public and fans started to look out for it. This also meant that a new generation of writers knew about it without having to be told by their colleagues. When *STAR TREK* returned to the big screen in 2009, Nero's ship the Narada destroyed 47 Klingon ships.

The tradition has continued with *STAR TREK: DISCOVERY.* Menosky returned to join the writing staff during the show's first season, but the number doesn't appear in the episodes that bear his name. Instead when the Shenzhou is attacked in 'Battle at the Binary Stars,' the shields fall to 47 percent and in the second season in 'An Obol for Charon' life support falls to 47 percent.

Like the students at Pomona College, some eagle-eyed fans have found evidence of the number 47 in places it seems unlikely anyone consciously intended. They've found it hidden in complicated strings of numbers, or created it by adding two numbers together. Perhaps all of this proves that it really is a mystical number or perhaps the lesson is that if you look for something hard enough you will find it.
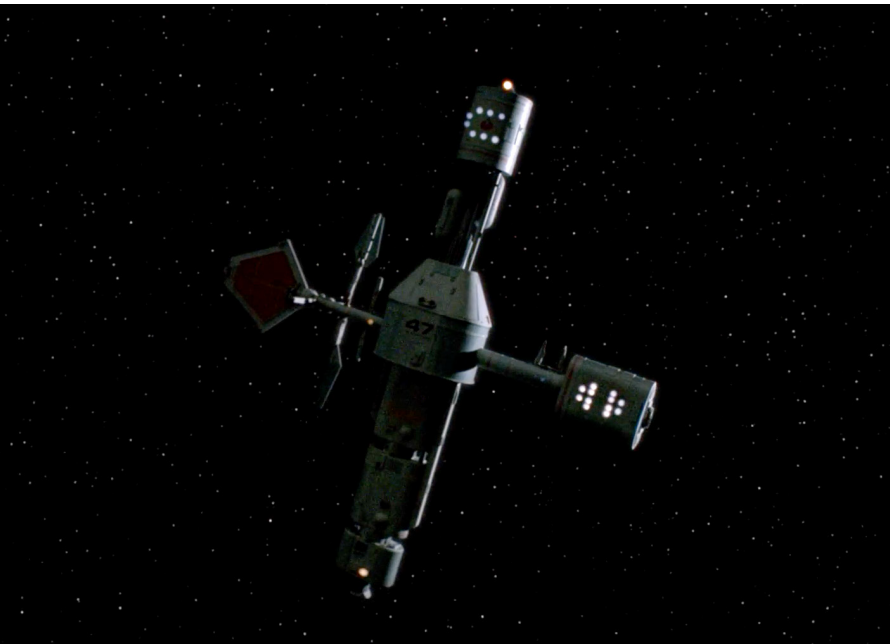


▲ In 'Terra Prime' Paxton keeps the captured human-Vulcan baby in a room labelled 03-47.
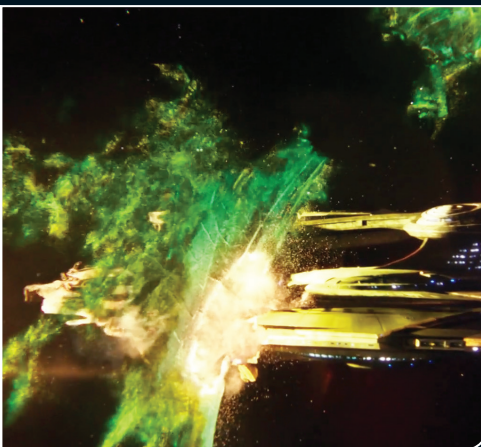


▲ When the Klingon Cleave ship destroys the U.S.S. Eurropa, the Shenzhou's shields are at 47 percent.

# ON SCREEN

The STAR TREK: THE NEXT GENERATION Technical Manual explains the need for a network of subspace relay stations and includes an illustration of an unmanned station. We also saw subspace relays in the DEEP SPACE NINE episode 'Destiny,' where Starfleet work with the Cardassians to establish a permanent link with the Gamma Quadrant. In the VOYAGER episode 'Message in a Bottle', the crew find a network of old stations that stretches all the way to the Alpha Quadrant.



| | |
|---|---|
| **FEATURED SERIES:** | STAR TREK: THE NEXT GENERATION |
| **TV APPEARANCES:** | 'Aquiel' (TNG) |
| **MOVIE APPEARANCES:** | None |
| **DESIGNED BY:** | Rick Sternbach |

## KEY APPEARANCES
### STAR TREK: THE NEXT GENERATION 'AQUIEL'

The U.S.S. Enterprise NCC-1701-D is making a routine supply run to subspace Relay Station 47, which is located on the border with the Klingon Empire, but when they arrive they discover the station is deserted. There are traces of blood from one of the two crew members, Lt. Aquiel Uhnari, and some disintegrated remains that can't easily be identified. The station's logs are scrambled and encrypted messages appear to be missing. The station's shuttle has gone. The only survivor is a dog.

The crew begin to investigate the mystery and Geordi is able to access Lt. Uhnari's personal logs and communications. He soon discovers that Aquiel had a difficult relationship with her superior, Keith Rocha, and that a Klingon commander called Morag frequently threatened the station. As he watches Aquiel's logs, he becomes fascinated with her. The crew theorize that either Rocha or Morag killed Aquiel.

While Geordi investigates further, Picard contacts the local Klingon governor and persuades him to bring Morag to the Enterprise, but to everyone's surprise, the Klingons deliver Lt. Uhnari, who is alive. As more information is revealed, suspicion of Aquiel increases – it seems that she may have murdered Rocha.

# STAR TREK™

47