



# PORTABLE DIGITAL WITH YOUR PHONE

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🌐 [n4jhc.com](http://n4jhc.com)



# PHONE-BASED DIGITAL?

- Audio between radio and phone
- No data cable required
- Phone handles encoding/decoding
- Radio passes the sound

# PHONE-BASED DIGITAL?

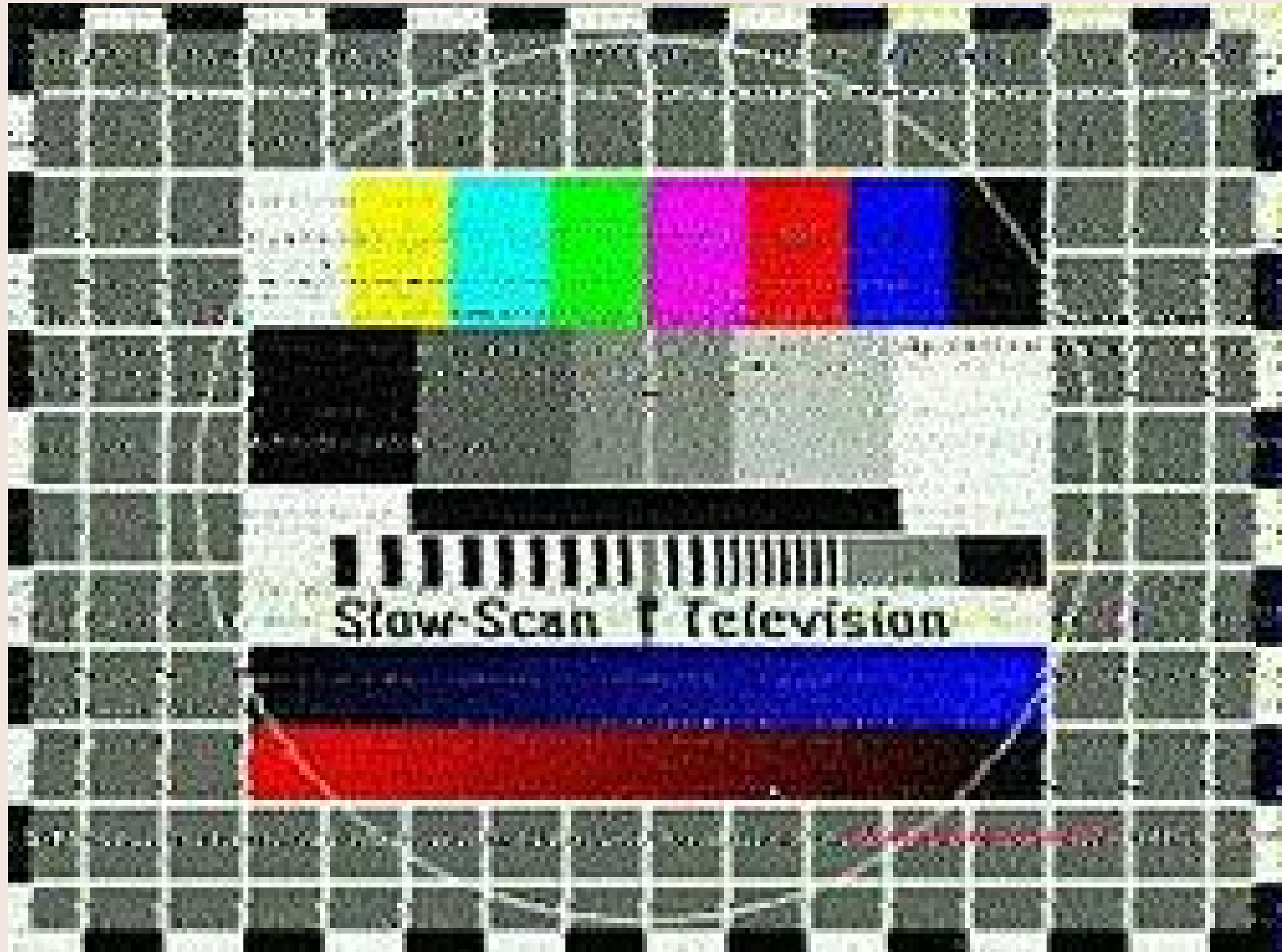
- NOT FT8
- SSTV
- APRS
- Ribbit / Rattlegram

# WHY?

- Ability to pass traffic messages easily
- Send data reliably and quickly
- Send something other than voice



# SLOWSCAN TELEVISION (SSTV)





# **SLOWSCAN TELEVISION (SSTV)**

**3 kHz bandwidth**

**8 seconds - multiple minutes**

**Single Frame**

**HF/VHF/UHF**





# **SLOWSCAN TELEVISION (SSTV)**

**Introduced 1957 by Copthorne Macdonald**

**120 lines x 120 pixels/line**

**Black & White Image**

**Originally on 11 meters**

**1968 - FCC authorized SSTV on the HF bands**



# **SLOWSCAN TELEVISION (SSTV)**



**Luna 3 - Launched in 1959**

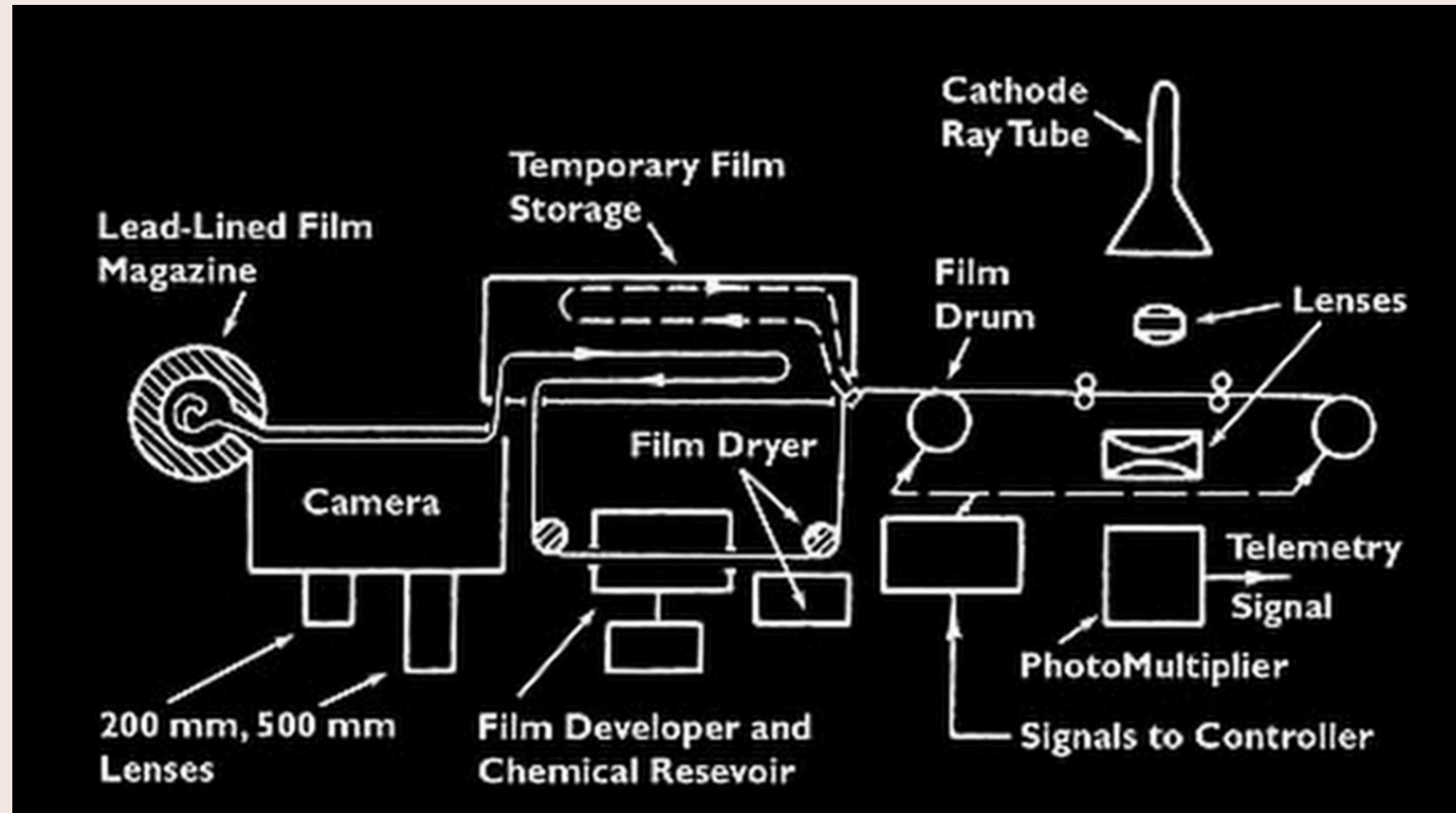


# **SLOWSCAN TELEVISION (SSTV)**



**Luna 3 - Launched in 1959**

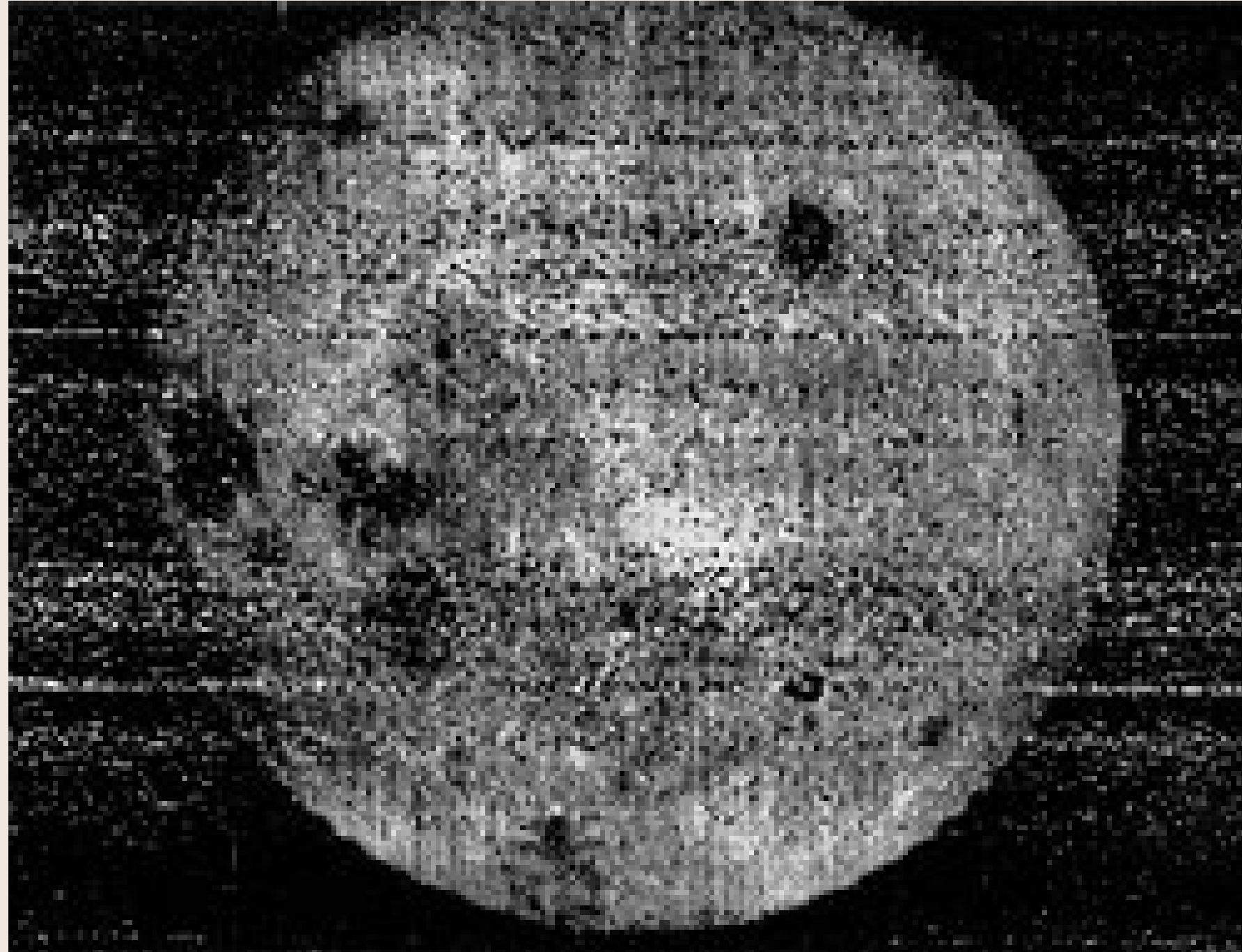
# SLOWSCAN TELEVISION (SSTV)



Luna 3 - Launched in 1959

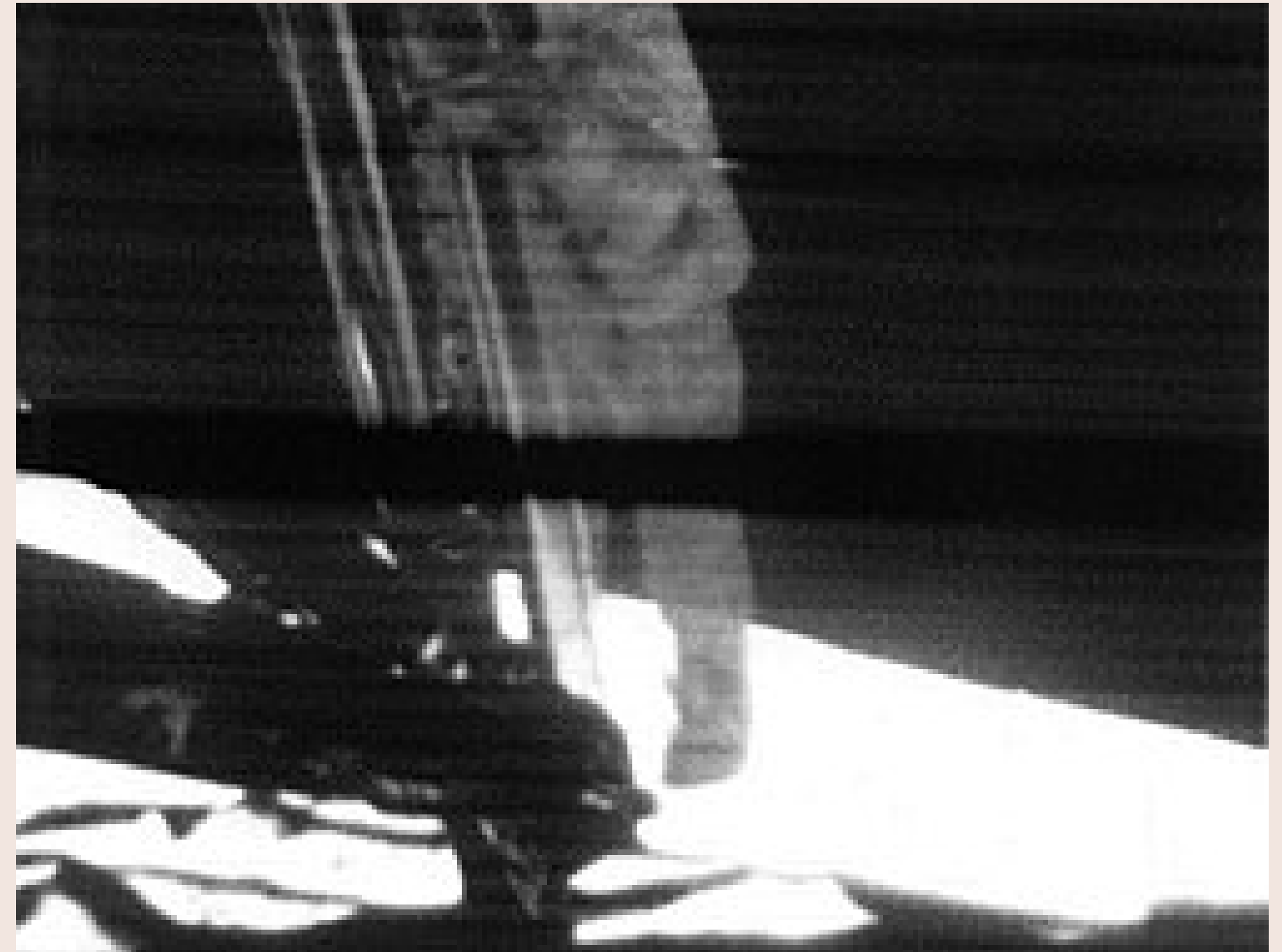


# **SLOWSCAN TELEVISION (SSTV)**



**Luna 3 - Launched in 1959**

# **SLOWSCAN TELEVISION (SSTV)**

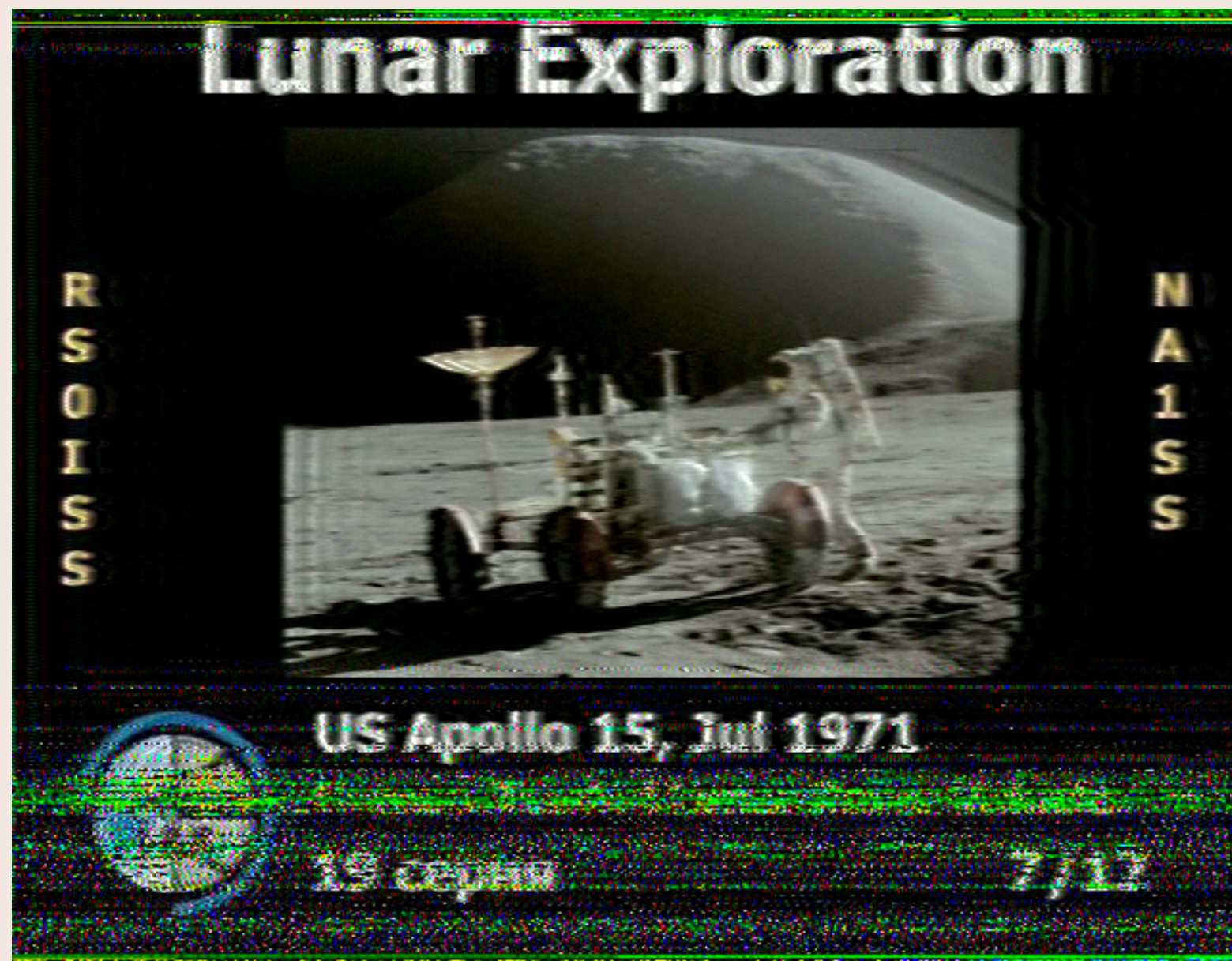


**Faith 7 - Apollo 11 Lunar Module**




# SLOWSCAN TELEVISION (SSTV)

Why Now?





# SLOWSCAN TELEVISION (SSTV)



### SSTV Slow Scan TV

Lifestyle

\$3.99

139 RATINGS

3.9

★★★★☆

AGES

4+


Years

CHART

#21

Lifestyle

DEVELOPER



Black Cat System

#### Also Included In



### Ham Radio Decoder Bundle

Lifestyle

View

#### Preview

Carrier 11:40 AM

Scottie S1 Stop Save View Tx



VE5KC [VE5KC.MDT] - MMSSTV Ver0.08

File(F) Edit(E) View(V) Option(O) Help(H)

Sync RX History TX Template

VE5KC MMSSTV Ver0.08

CQ SSTV

de VE5KC

TX Mode

Auto

Robot 36

Robot 72

AVT 90

Scottie 1

Scottie 2

Scottie DX

Martin 1

Martin 2

SC2 180

AGC

Fast

Log

Call JE3HHT His 595 My 595

Name Mako QTH Japan

Note MMSSTV Test







QSI

QSO Data Find Clear List 14.230

Stocked pictures

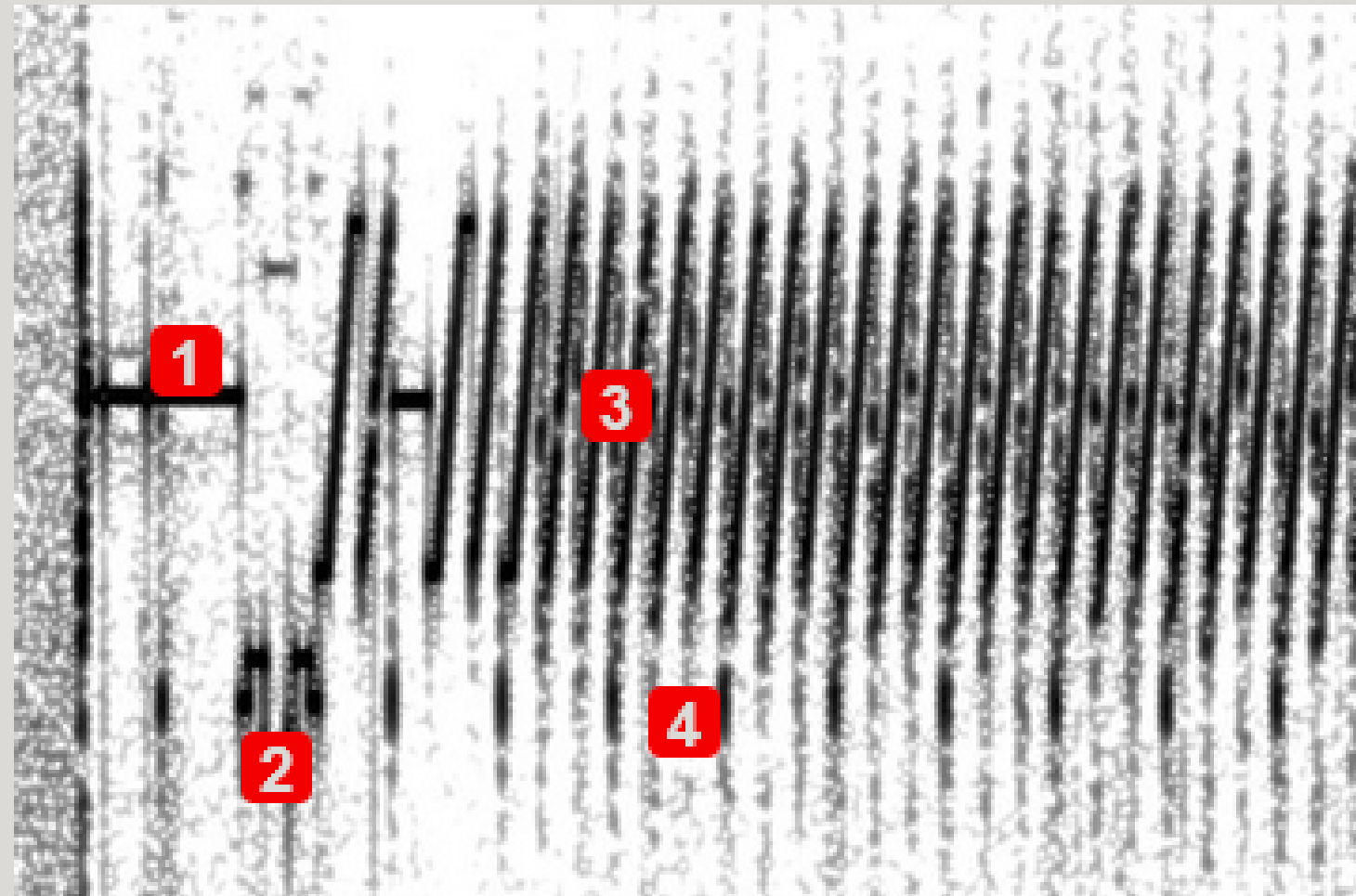
Stocked templates

☒ Show superimposed templates 1/50





# SLOWSCAN TELEVISION (SSTV)



A [spectrogram](#) of the beginning of an SSTV transmission

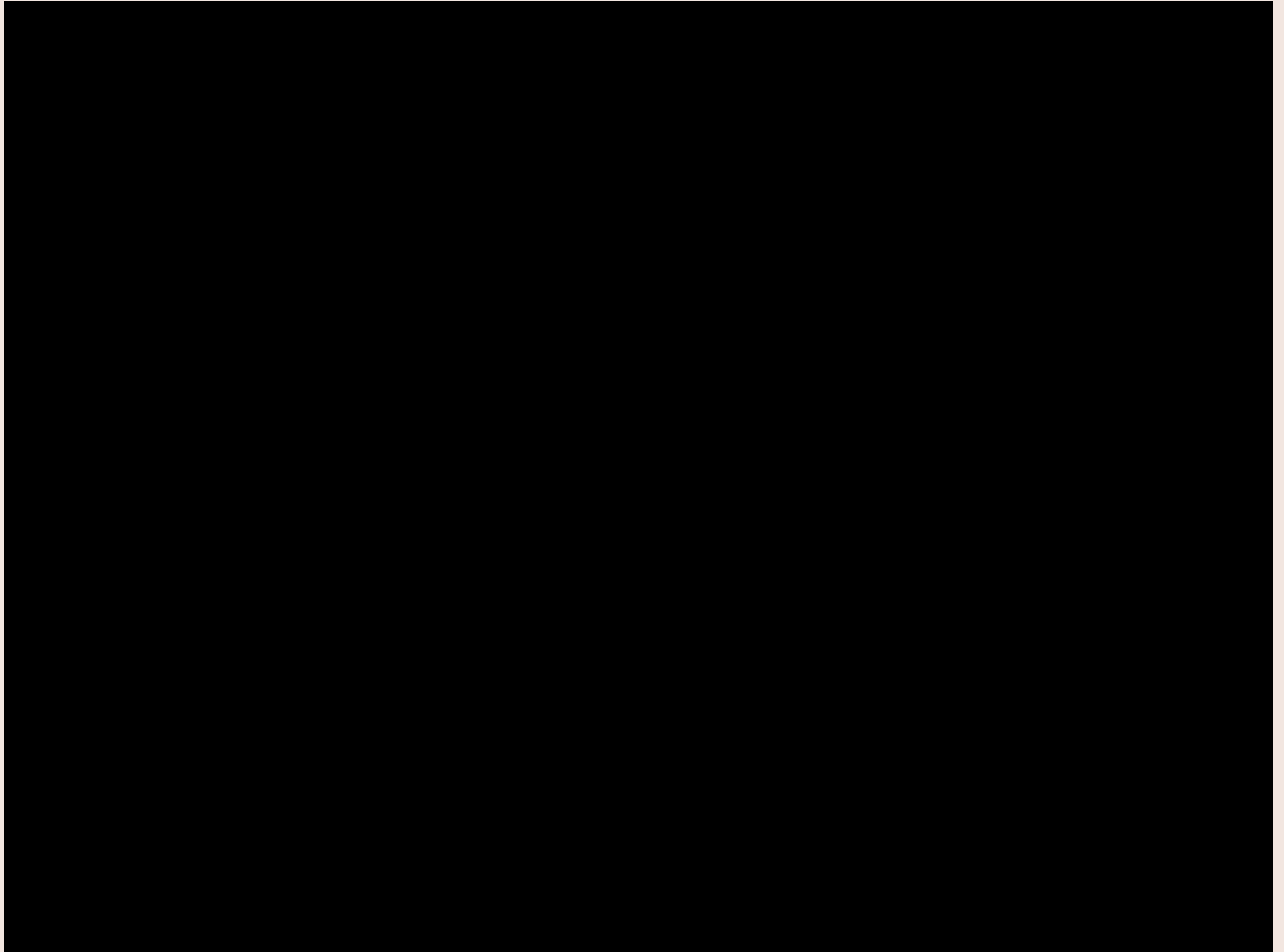
- |                             |                        |
|-----------------------------|------------------------|
| <b>1</b> Calibration header | <b>3</b> RGB scanlines |
| <b>2</b> VIS code           | <b>4</b> Sync pulses   |

ROBOT 36

320 x 240 px

0.36s/line

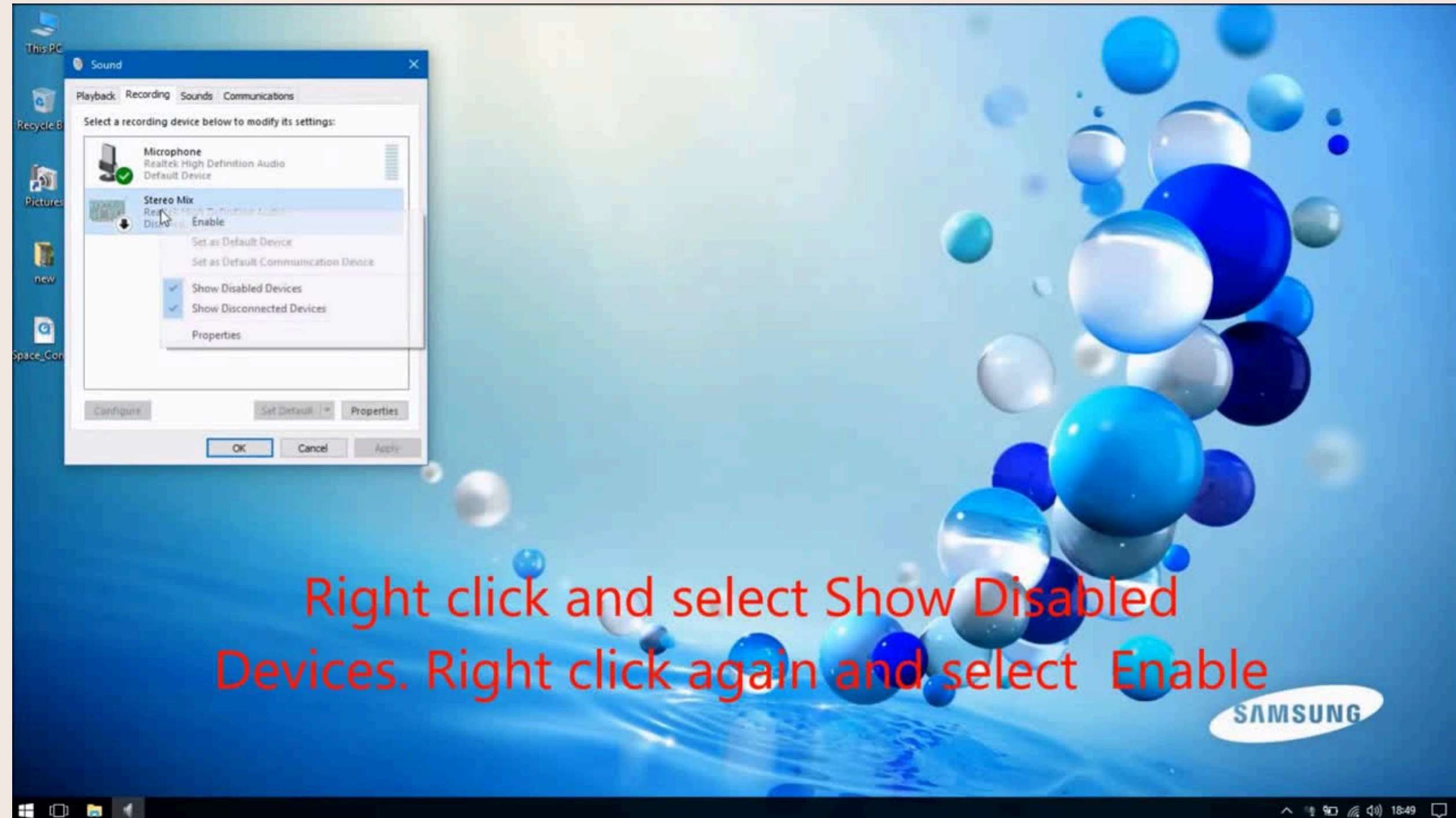
114s/image





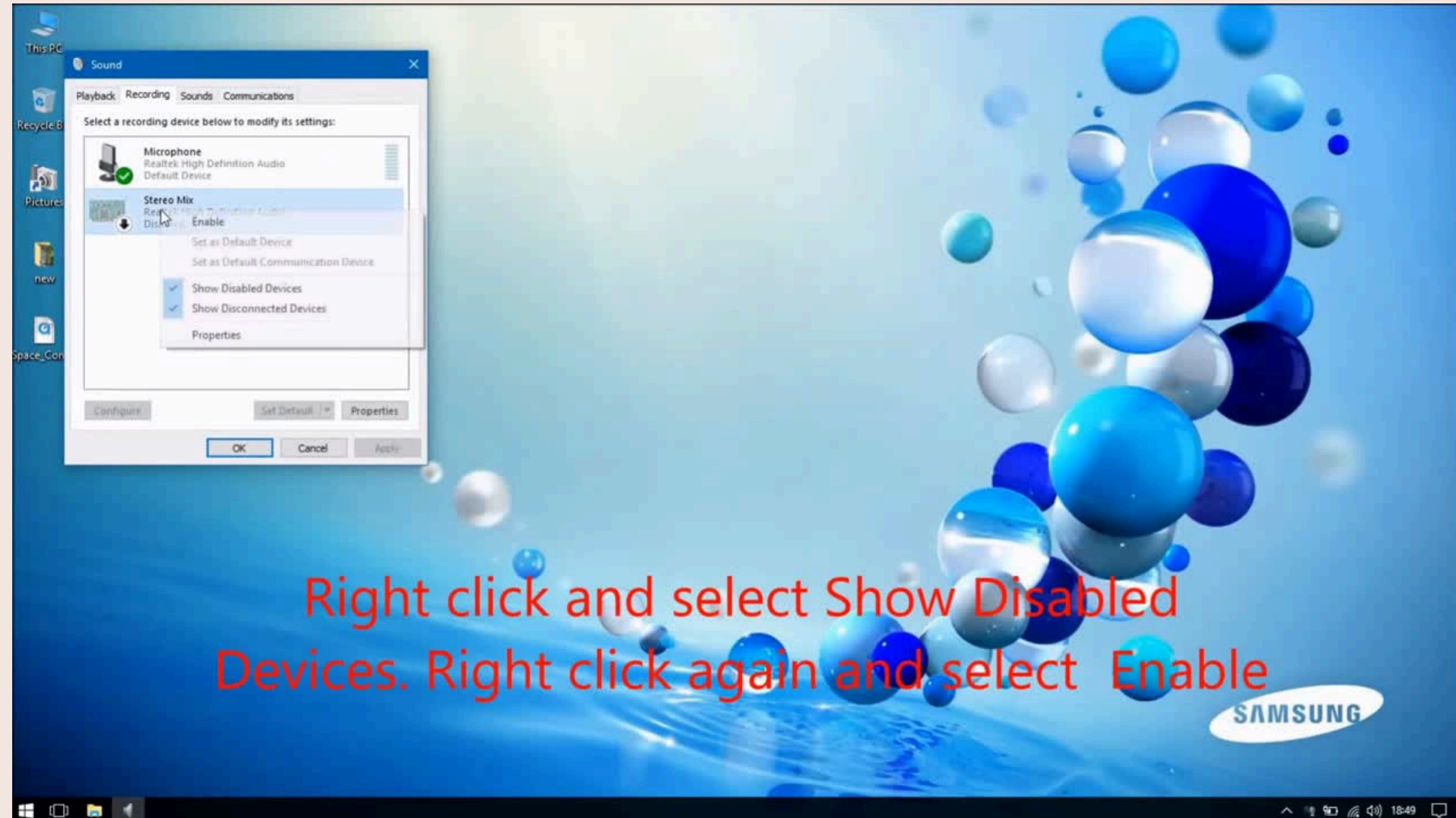
# PD 120

640 x 496px  
~ 0.24s/line  
~ 120s/image



# PD 120

640 x 496px  
~ 0.24s/line  
~ 120s/image



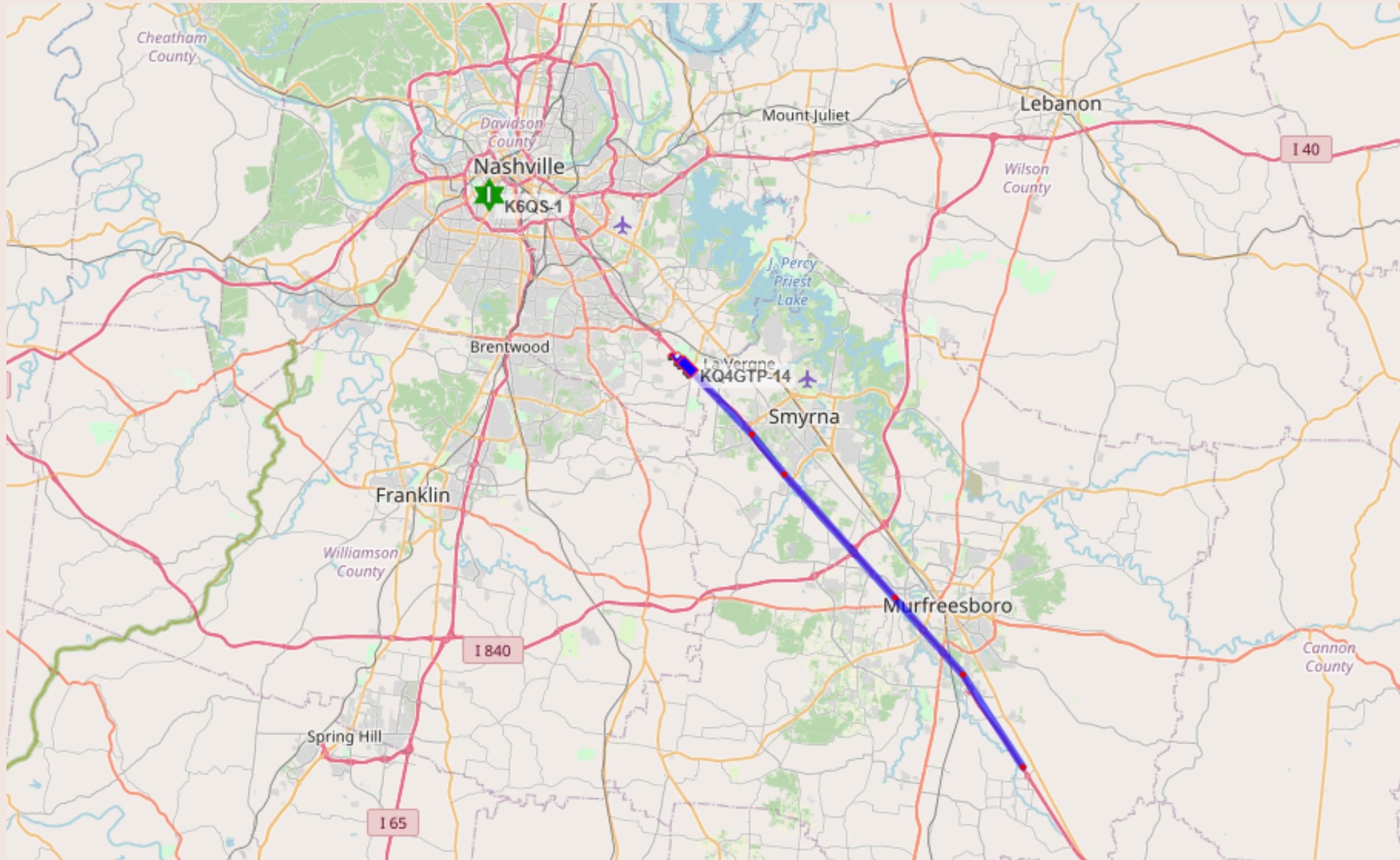


# SLOWSCAN TELEVISION (SSTV)



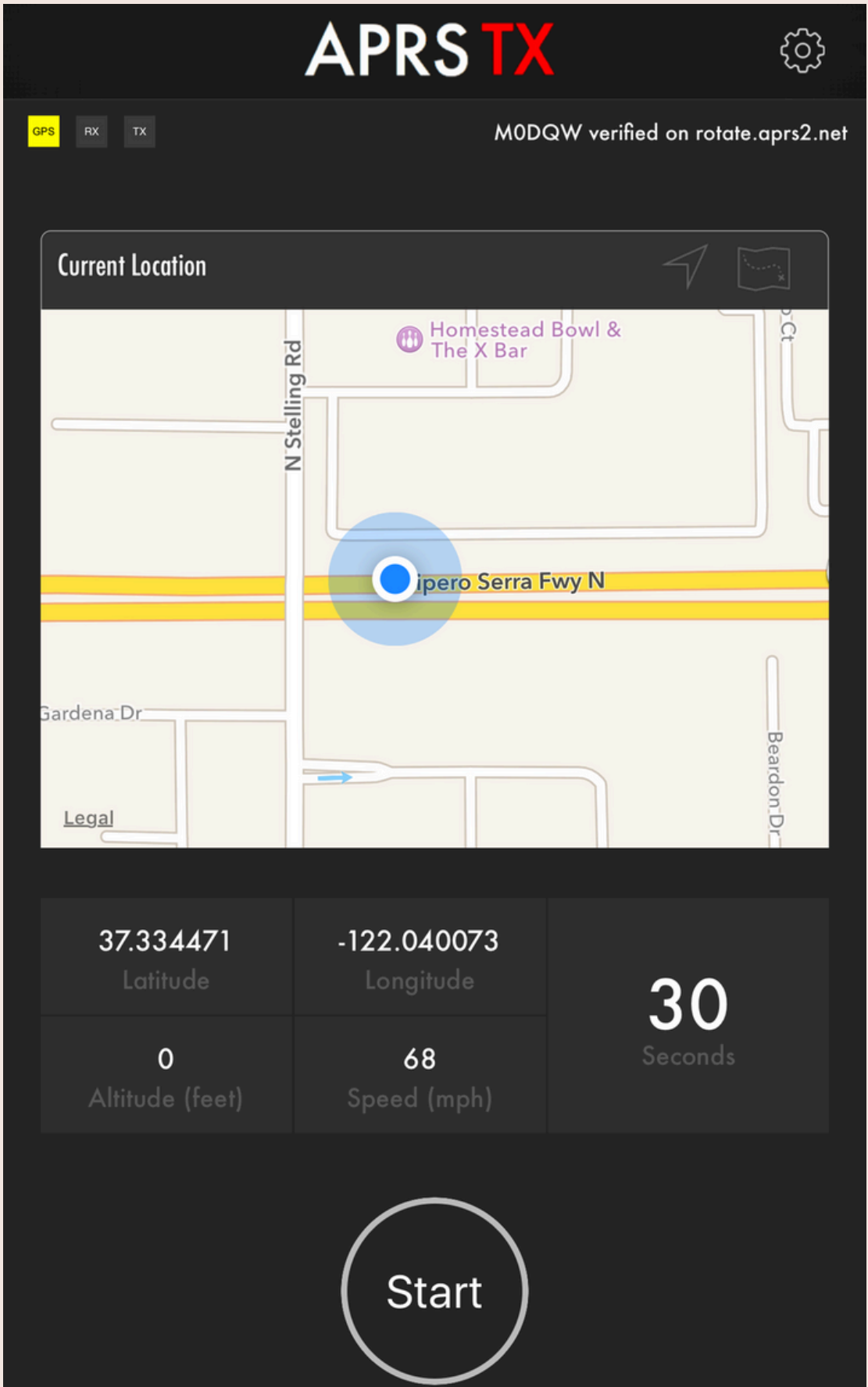


# AUTOMATIC PACKET REPORTING SYSTEM





# AUTOMATIC PACKET REPORTING SYSTEM





# AUTOMATIC PACKET REPORTING SYSTEM





# **RIBBIT / RATTLEGRAM**

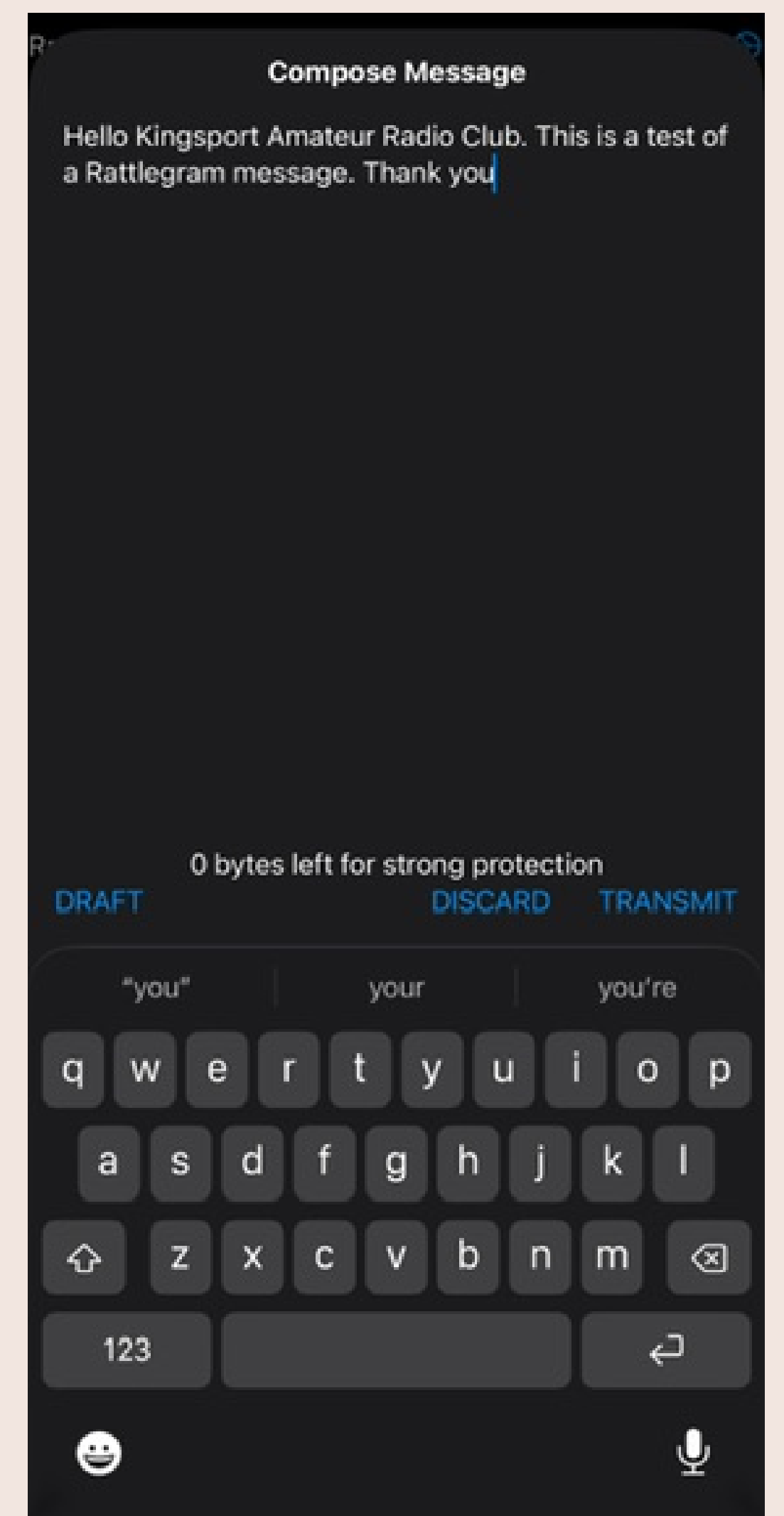


**NEW DIGITAL TEXT  
MESSAGING MODE  
FOR VHF/UHF  
EMERGENCY  
COMMUNICATIONS**

# RIBBIT / RATTLEGRAM

~ 80 Characters

No additional hardware



# RIBBIT / RATTLEGRAM

Rattlegram



---

2026-01-07 06:16:47 - N4JHC - Sent ping

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2026-01-07 06:16:34 - N4JHC - Transmitted:  
Hello Kingsport Amateur Radio Club. This is a test of a  
Rattlegram message. Thank you

---

2026-01-01 00:01:32 - N4JHC - Sent ping

---

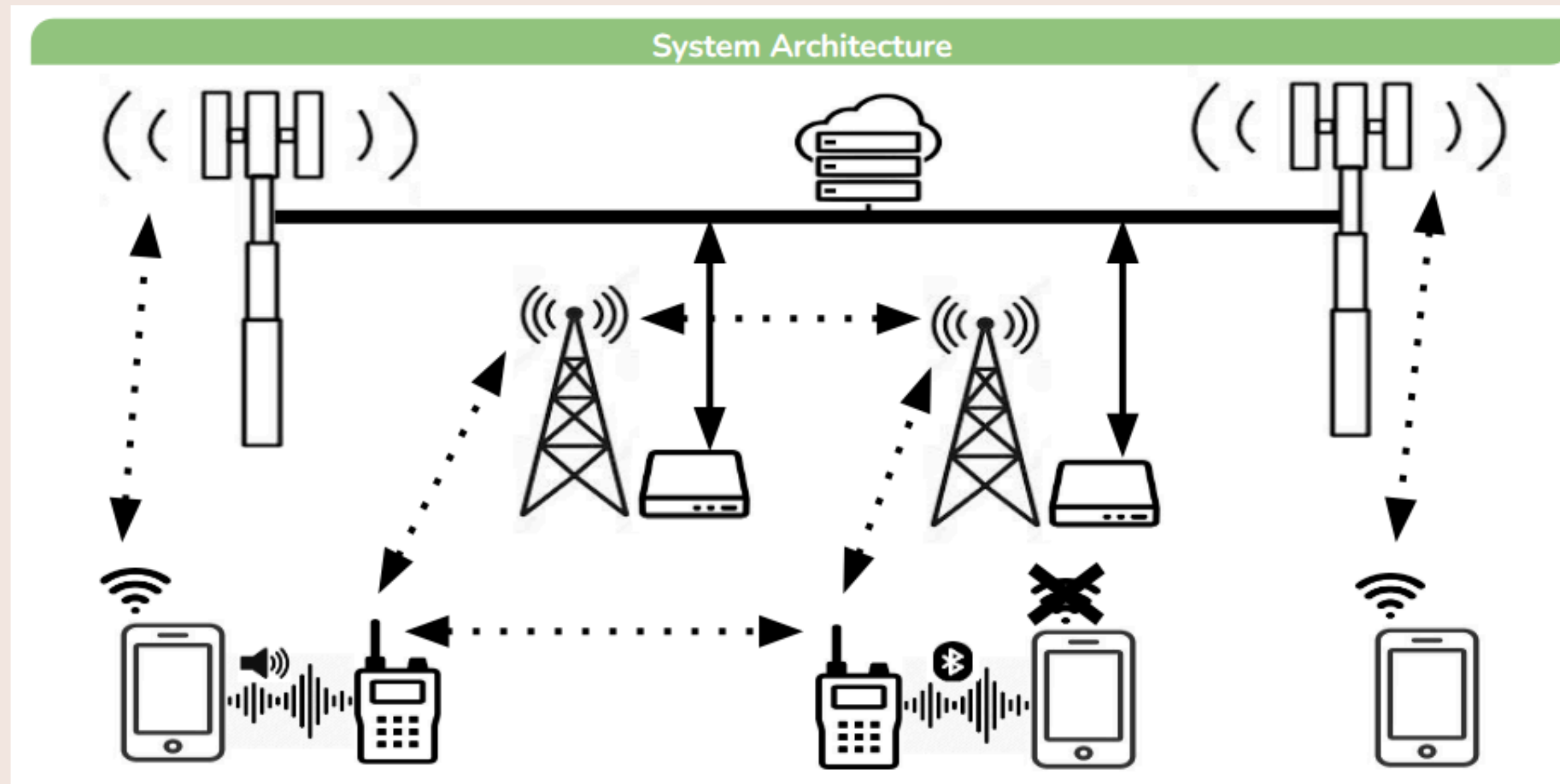
2026-01-01 00:01:22 - N4JHC - Transmitted:  
This is a test

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# RIBBIT / RATTLEGRAM



# OTHER THINGS TO CHECK OUT

- Packet Radio (AX.25)
- PSK 31
- Winlink
- DMR/YSF/D-Star



# OTHER THINGS TO CHECK OUT

- Terminal Node Controller (TNC)



**Mobilinkd TNCs**  
The world's first  
iOS-compatible TNCs

Compatible with Android, iPhone and iPad

**APRS® Made Simple**  
® APRS is a registered trademark of Bob Bruninga WB4APR

# ANY QUESTIONS?

- **Slow Scan Television (SSTV)**
  - **Luna 3 Russian Spacecraft (sorry)**
- **Automatic Packet Reporting System (APRS)**
- **Ribbit / Rattlegram**