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G8DLX



# Picture Modes



**On the Amateur Bands**

# **Main types available**

**Fast Scan TV**

**Slow Scan TV**

**Fusion - Yaesu**

**D Star - Icom**



# Fast Scan

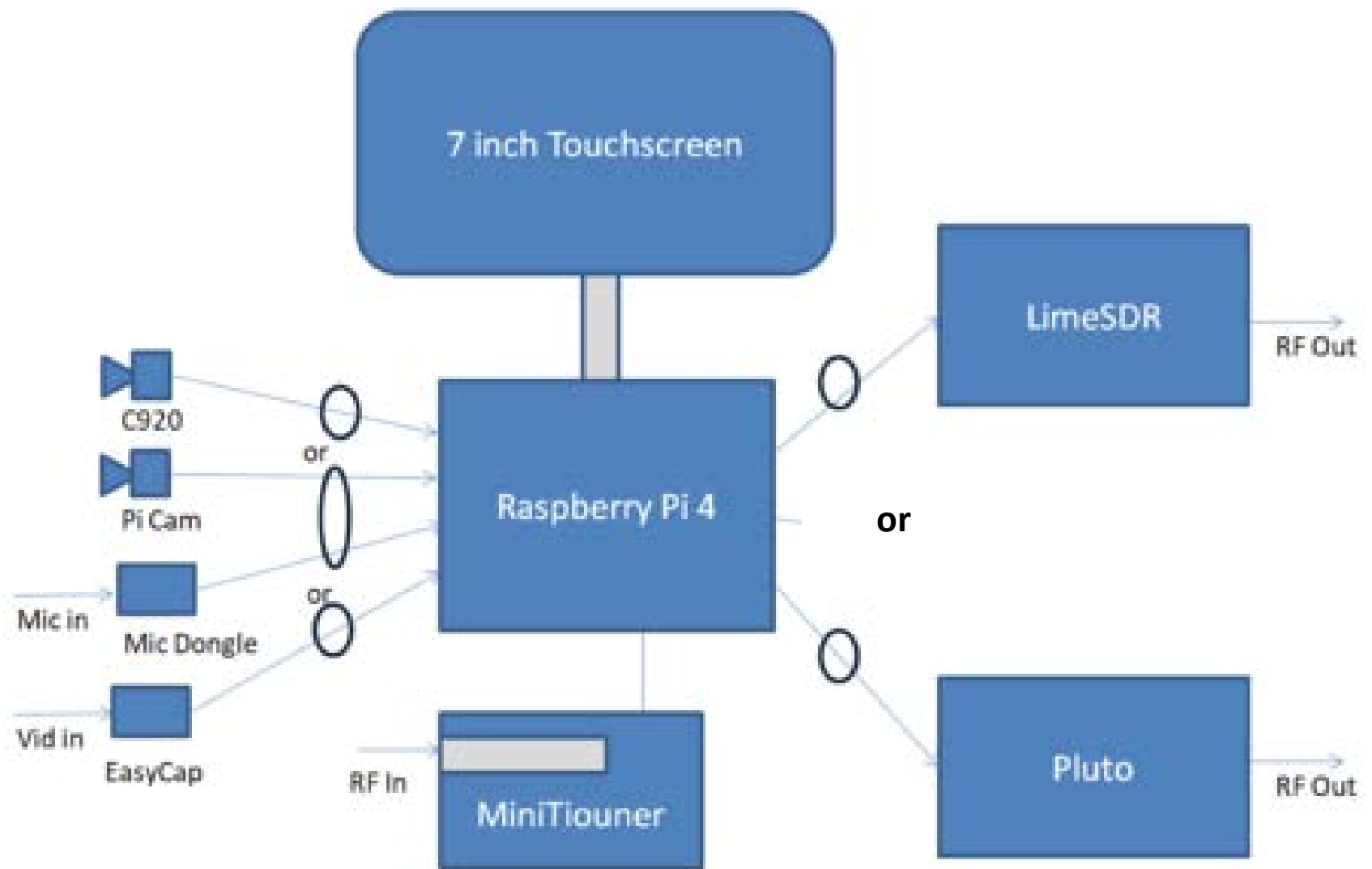
## Main Bands Used

- 4 m 70.5 to 71.5 MHz (NOV Full Licence)
- 2 m 146 to 147 MHz (NOV Full Licence)
- 70 cm 437Mhz
- 23 cm
- 13 cm 2.3 GHz
- 6 cm 5.6 GHz (Drone kit)
- Oscar 100



# Options

- Simplex on any of these bands
- Repeaters on 23cm + with many also showing their output on the BATC web site.
- Talk back normally on 144.75MHz



Portsdown 4 – Simplified Block Diagram



# Received at the Club on 23cm

MINITIOUNE v0.9.9.1h - Receiver/Analyser DVB-S/S2 144 MHz to 2450 MHz - SRmini=32 kS/s - for MiniTiuner/MiniTiuner-Pro

**SR (kS) Freq (kHz)**  
**00333 01299000**  
Offset-> **00000000**

SR0333 437 MHz  
SR0125 1255 MHz  
SR1000 146.5 MHz  
SR4000 Q-7.25MHz  
SR250 Q-7.75 MHz  
SR125 Q-8.25 MHz  
SR88 Q-8.75 MHz  
SR27500 1255MHz

Oscar 100

DVB mode: ☒ DVB-S ☐ DVB-S2 ☐ Auto  
FEC DVB-S: ☐ All ☐ 1/2 ☐ 2/3 ☐ 3/4 ☐ 5/6 ☐ 6/7 ☐ 7/8

☐ Wide scan  
☐ Low SR

Fplug: ☒ A ☐ B LNB volt: ☐ 0 ☐ 13(V) ☐ 18(H) 22kHz: ☐ OFF ☐ ON ☐ TS

Store into Memory  
M1 M2 M3

**Geoff-G3TQF/T**

**PIDs**  
Pid from .ini  
Geoff-G3TQ Auto PID  
F6DZP-Mpeg  
HDlowSR  
France24  
QRZ DX  
RaspberryP

**PID Video**  
00256  
**PID audio**  
00257  
Codec: ☐ Mpeg2 ☐ H264 ☐ H265

Format: ☒ 4/3 ☐ 16/9 ☐ 1/1 ☐ auto Width: 704 Height: 576  
Zoom: ☐ adapt ☒ x1 ☐ maxi  
Audio: ☐ MPA ☒ AAC ☐ AC3

**GRAPH**  
Reset

**A\_decoder:** LAV Audio Decoder  
**V\_decoder:** Microsoft DTV-DVD  
**Program:** Geoff-G3TQF/T  
**infos:** DVB-S2  
**Provider:** Portdown

photo

**Audio level**  
☐ Info refresh: 566ms

Carrier Lock  
SR Lock  
RF Power  
C/N MER

BCH errors: 16  
LDPC: 16% 1052  
FEC: 9/10 QPSK\_LP35  
C/N must be > 6.42 dB  
D1  
TS: 0

Beep Dsave UDP Record  
Quit

# GB3GV Received at Pete's Farm

MINITOUNE v0.9\_9.1h - Receiver/Analyser DVB-S/S2 144 MHz to 2450 MHz - SRmini=32 kS/s - for MiniTouner/MiniTouner-Pro

**SR (kS) Freq (kHz)**  
**04000 01318500**

Offset-> - 00000000

|         |            |
|---------|------------|
| SR0333  | 437 MHz    |
| SR0125  | 1255 MHz   |
| SR1000  | 146.5 MHz  |
| SR4000  | Q-7.25MHz  |
| SR250   | Q-7.75 MHz |
| SR125   | Q-8.25 MHz |
| SR88    | Q-8.75 MHz |
| SR27500 | 1255MHz    |

Oscar 100


DVB mode: ☒ DVB-S ☐ DVB-S2 ☐ Auto

FEC DVBS: ☒ All ☐ 1/2 ☐ 2/3 ☐ 3/4 ☐ 5/6 ☐ 6/7 ☐ 7/8

☐ Wide scan ☐ Low SR

Fplug: ☒ A ☐ B LNB volt: ☒ 0 ☐ 13(V) ☐ 18(H) 22kHz: ☒ OFF ☐ ON ☐ TS

Store into Memory: M1 M2 M3



GB3GV

**PIDs**

Pid from .ini

GB3GV Auto PID

F6DZP-Mpeg PID Video 00256

HDlowSR PID audio 00257

France24

QRZ DX

RaspberryP

Format: ☒ 4/3 ☐ 16/9 ☐ 1/1 ☐ auto Width: 768 Height: 576

Zoom: ☐ adapt ☒ x1 ☐ maxi

Audio: ☒ MPA ☐ AAC ☐ AC3

GRAPH Reset

A\_decoder: LAV Audio Decoder  
V\_decoder: Microsoft DTV-DVD

Program GB3GV

infos: DVB-S

Provider: BATC

photo

Audio level refresh: 698ms

☐ Info

Carrier Lock 100%

SR Lock 100%

RF Power -89dBm

C/N MER 0.0dB

Constellations

Viterbi err 0

Vber 100%

FEC 1/2

C/N must be > 1.7dB

TS 0

Bytes recvd: 0 kb/s lock: 5476 ms

Beep Dsave UDP Record

Quit

Expert Web

# 70cm TX into GB3ZZ


File Edit View History Bookmarks Tools Help

GB3ZZ - BATC Live Streaming x

https://batc.org.uk/live/gb3zz?forcehtml5=true

HOME JOIN BATC MEMBERS CQ-TV SHOP **STREAMER** ON-LINE CONTESTS & MAPS EVENTS CLUB INFO

GB3ZZ



F

G8DLX

70cm 2ms

Stream is Active - Click to play!



# https://batc.org.uk/live/

File Edit View History Bookmarks Tools Help

Streamer - British Amateur Tele X

https://batc.org.uk/live/

Search

**BATC** BRITISH AMATEUR TELEVISION CLUB

HOME JOIN BATC MEMBERS CQ-TV SHOP **STREAMER** ON-LINE CONTESTS & MAPS EVENTS CLUB INFO

BATC Live Video Streamer

Online Streams Offline Streams

Members

- G3GJA
- G4NNS Meteor Receiver
- KA5TDA
- M1AHN
- N0YE
- NJ6E
- ON0TVO stream by ON5KR
- PA3FBX
- PE1SDE
- VK3CE
- VK3RTV-1 Melb ATV Group.
- W6SVA

Repeaters

- DB0KK - Berlin-Lichtenberg
- DB0OV - ATV Repeater
- F5ZBC
- G8LES Link to HV IO91LC
- GB3DO
- GB3EN
- GB3ET
- GB3EY
- GB3GG
- GB3GV
- GB3JV
- GB3KM
- GB3NQ
- GB3SQ
- GB3TN
- GB3TV
- GB3UD
- GB3UT
- GB3VL
- GB3ZZ
- ON0CTV
- VK3RTV-1 Melb ATV Group.
- VK3RTV-2 Melb ATV Group
- W3BAB - Chesapeake ATV Society
- W6SVA

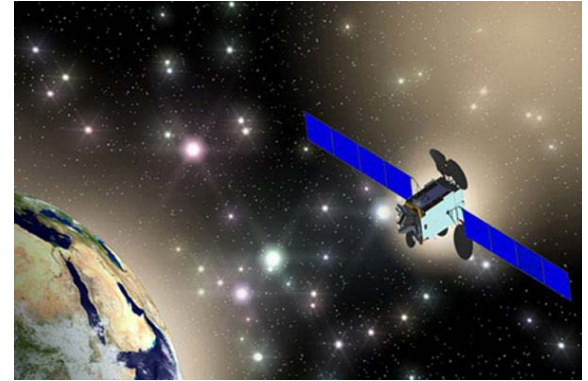
Events

- BATC Oscar 100 net

# Oscar 100

## (Es'hail – 2)

- AMSAT DL
- Qatar Amateur Radio Society
- Qatar Satellite Company
- Built by Mitsubishi
- Launched 15<sup>th</sup> November 2018 by SpaceX on a Falcon 9 from Cape Canaveral



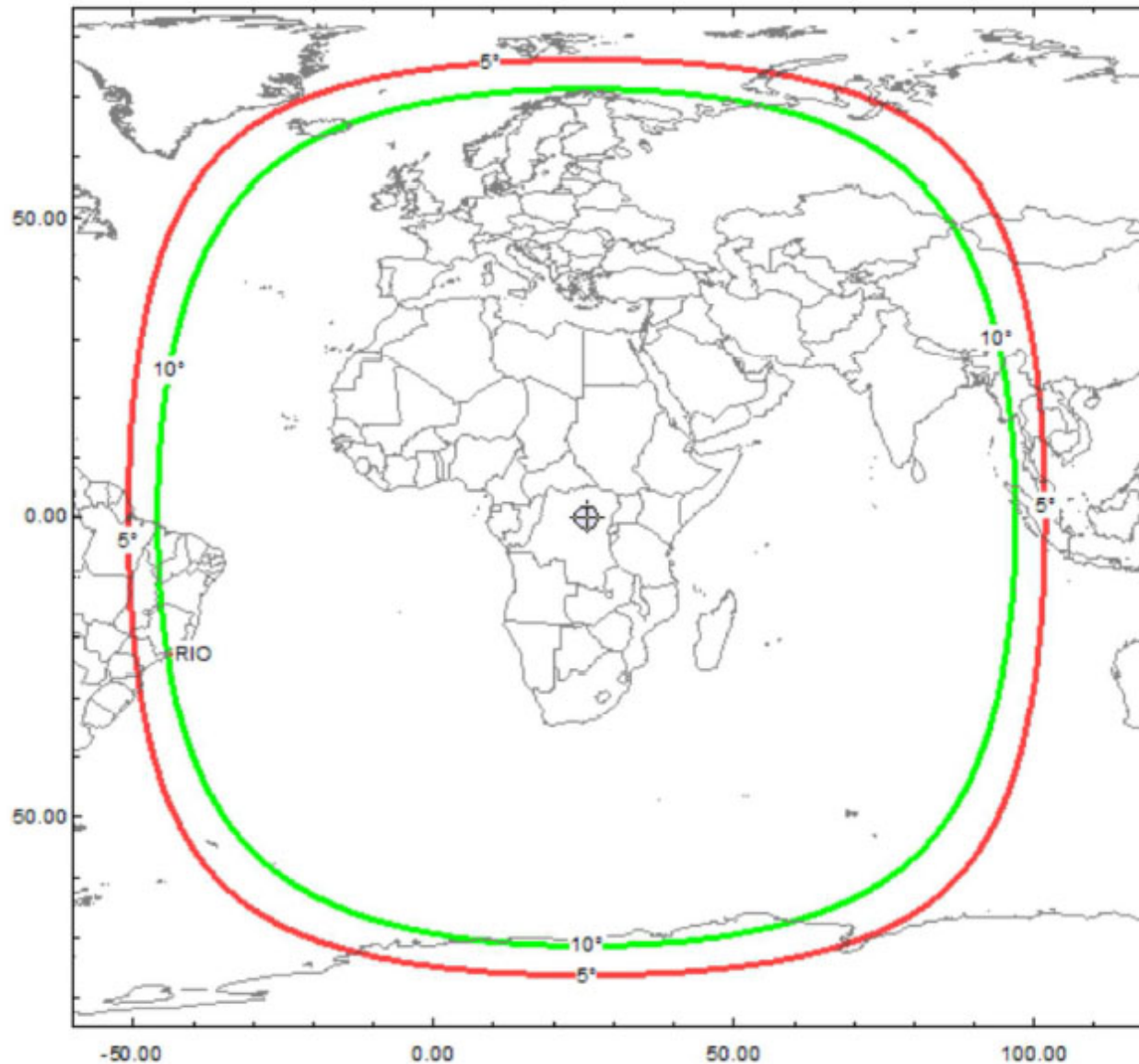
# Oscar 100

## (Es'hail – 2)

- Oscar 100 uses 2.4GHz up 10.5GHz down
- Uses 2 backup transponders on TV Satellite
- NB is Vertical – WB is Horizontal
- Geo Stationary over Africa
- Spectrum Display on BATC website
- TV net on Thursday Evenings
- <https://batc.org.uk/live/oscar100net>

# Oscar 100

Coverage from orbital position of 26 deg East



# Oscar 100 Thursday Net





# Oscar 100 Thursday Net



# Oscar 100 Thursday Net

[www.zr6tg.co.za](http://www.zr6tg.co.za)



Tom - ZR6TG - KG33WG - South Africa - OBS/Adalm Pluto - 1,8m Dish 30w to 50w - [www.zr6tg.co.za](http://www.zr6tg.co.za)

# SSTV

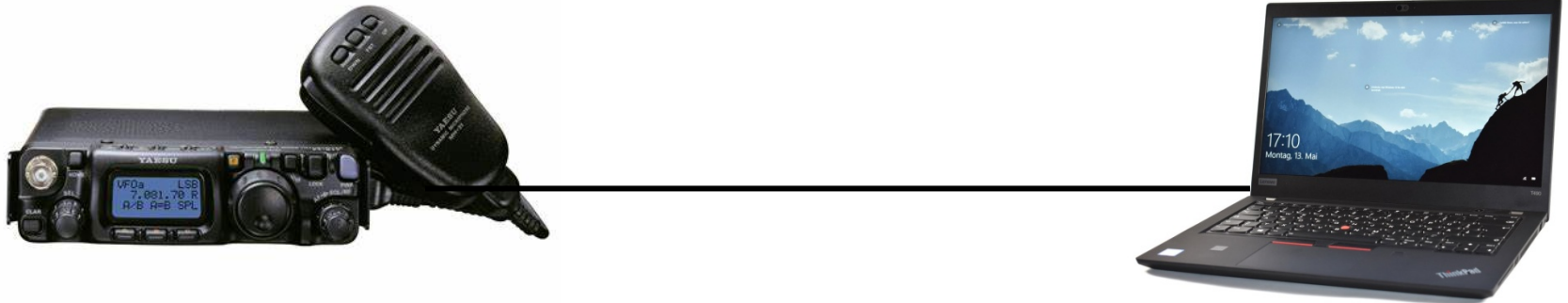
- Used on most HF bands – using SSB
- Common on 14.230MHz
- 144.500 Image Modes (SSTV, Fax etc)
- ISS on 145.800 – using FM

# SSTV Software

- MMSSTV on a windows PC
- QSSTV on a Raspberry Pi
- Robot36 on phone/tablet
- Several modulation modes used but the software automatically switches for RX

# The Hardware

- RX only – Audio Cable



- RX Only – No wires





# The Hardware

- TX & RX – Sound Card in RIG (ICOM +)
  - USB Cable



# The Hardware

Interface gives

- Audio Path on TX & RX (external sound card)
- PTT Control (VOX in unit)





Space Station "Salut-6"

RSOISS

Космическая станция «Салют-6»

1977 - 1982



INTERKOSMOS 40<sup>th</sup> YEARS

Series 9 - 7.1



# ISS Over Southern England

**Интер-МАИ-75** RSOISS 2/12  
Выдающиеся заведующие кафедрами МАИ



Александр Сергеевич  
Яковлев  
Кафедра №101  
"Проектирование самолетов"  
1944-1945, 1958-1959 гг.

Alexander Sergeyevich  
Yakovlev  
Department #101  
"Designing of airplanes"  
1944-1945, 1958-1959



Outstanding heads of departments of MAI

**Inter-MAI-75** December 2019

# Yaesu Radios with Picture Mode

FT2

FT3D



FTM 400



FT5D



**YAESU**  
*The radio*

Picture from Camera Mic

Can be stored on the Radio's SD Card

## Operation

Uses the Fusion /C4FM mode

RX picture can be saved on the Radio's SD card









# ICOM Radios with Picture Mode

IC-9700



ID-52



IC-705



# ICOM

## Picture loading options

- From Android or Apple Phone/Tablet RS-MS1A/I & ST-4001A/I
- From a Windows Computer ST-4001W
- Icom ST-4001 software allows the picture to be cropped and text to be added
- Loaded via SD card from Computer

# ICOM

## Operation

- Uses the D-Star mode
- Can transmit picture only or picture plus voice at the same time
- Various qualities – Transmission times available
- Radio can save picture to its SD card





m0str io92mf





# Final Thoughts

- Pictures are a powerful tool
- Many locals have other hobbies/past times which would be interesting to see
- Many of us have suitable equipment
- Lets use it
- How about a picture net?





# **BATC Convention**

CAT 23 will be a 2-part event. The first part will be an in-person meeting at the Midland Air Museum in Coventry on Sunday 6 August. The second part will be online, probably in October.

