



# Home Counties ATV group



# GB3HV digital

- What have we done
- Why have we done it
- The results
- What kit do I need?

# GB3HV digital – part 1

- Option to switch the transmitter in to digital mode
  - Control menu 4, option 4=on, 7=off
  - Switches back to FM when Tx de-keys
- Same frequency (1308 MHz)
- DVB-S transmission (as satellite)
  - QPSK, 4 Msymbols,  $\frac{1}{2}$  FEC
  - Why DVB-s = its easy!



Power Amps



FM transmitter

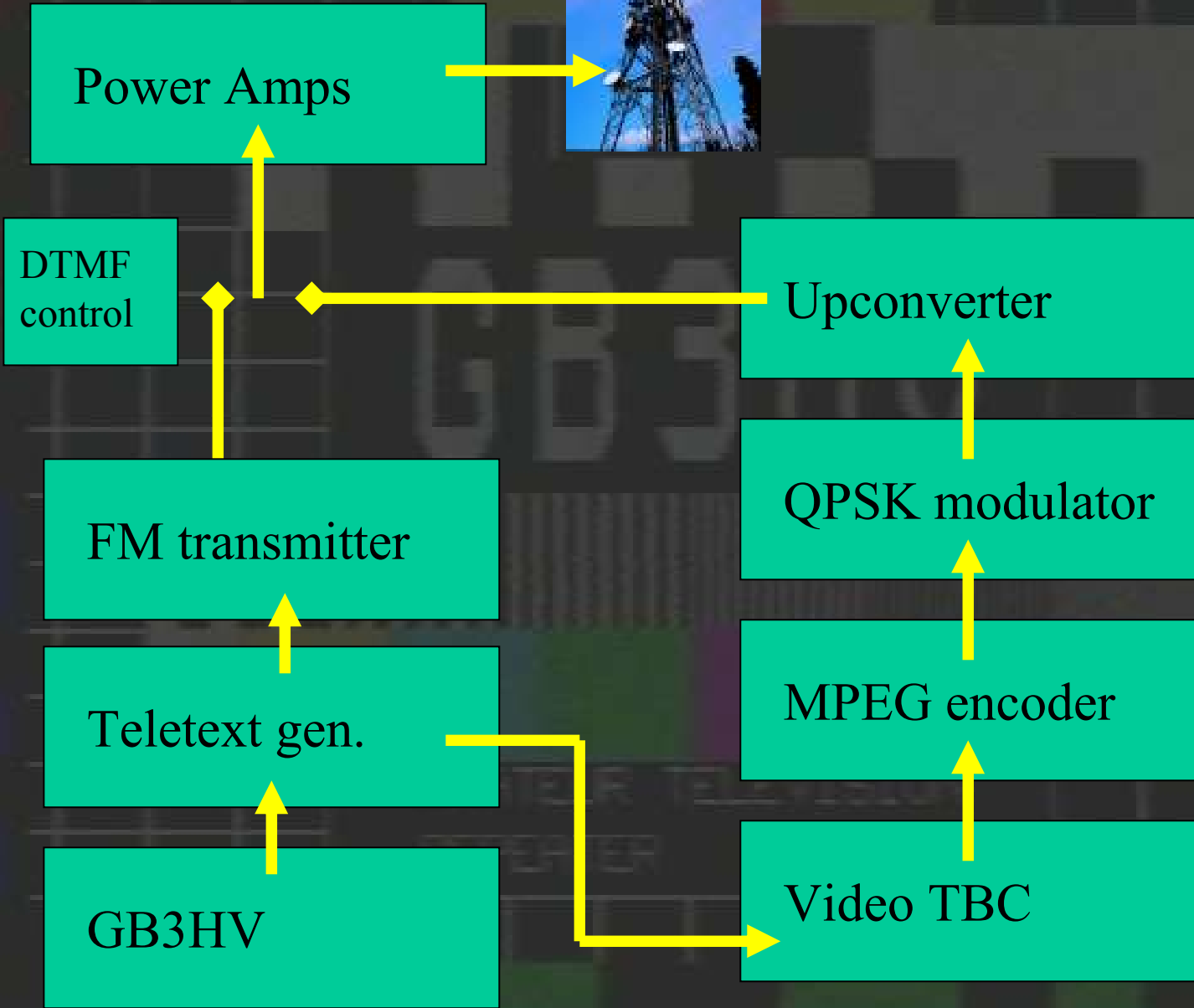


Teletext gen.



GB3HV





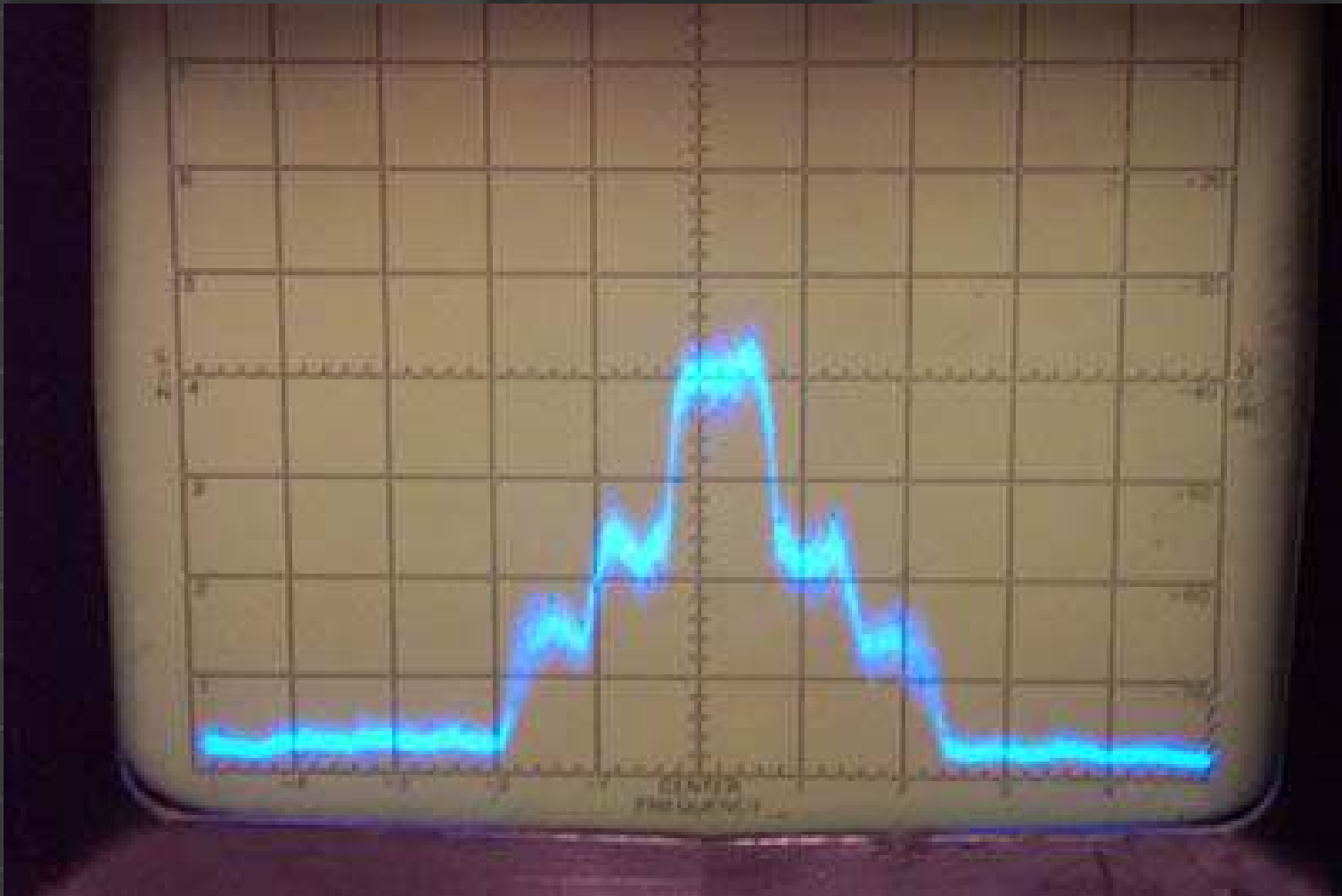
# In practice



# In practice



# On air





# Part 1 - Before





# Part 1 - After



# HV digital – part 1

- HV transmits normal output in digital
  - Test card
  - Repeats any analogue signal
  - Cannot be seen on FM rxr
- What do I need to receive it?
  - Any “free to air” digital satellite rxr
  - HV specials = £15!
  - Technomate = £100
    - L Band pass through to FM rxr

# In the shack

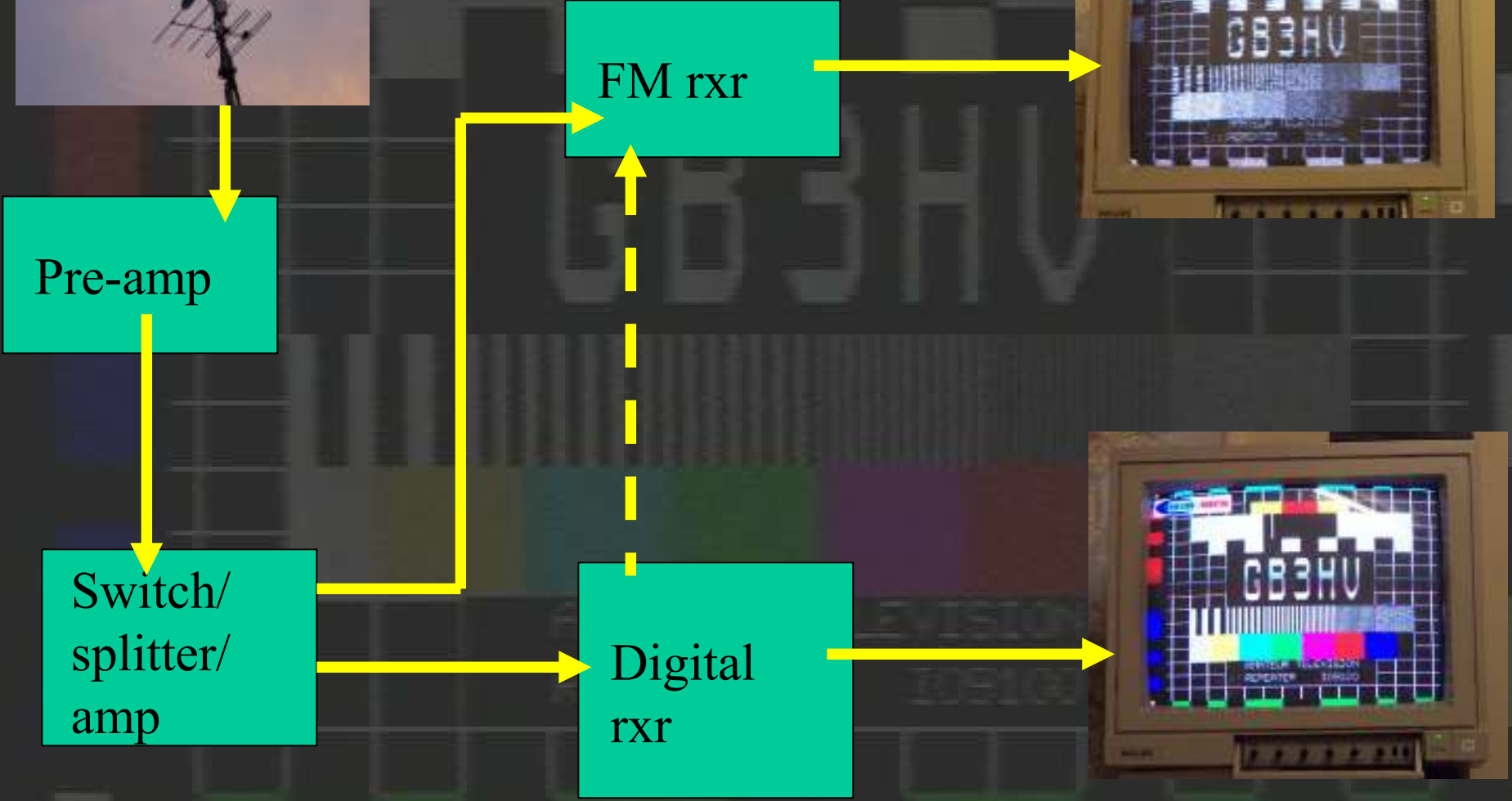


Pre-amp

Switch/  
splitter/  
amp

FM rxr

Digital  
rxr



**GB3HV - DIGITAL**

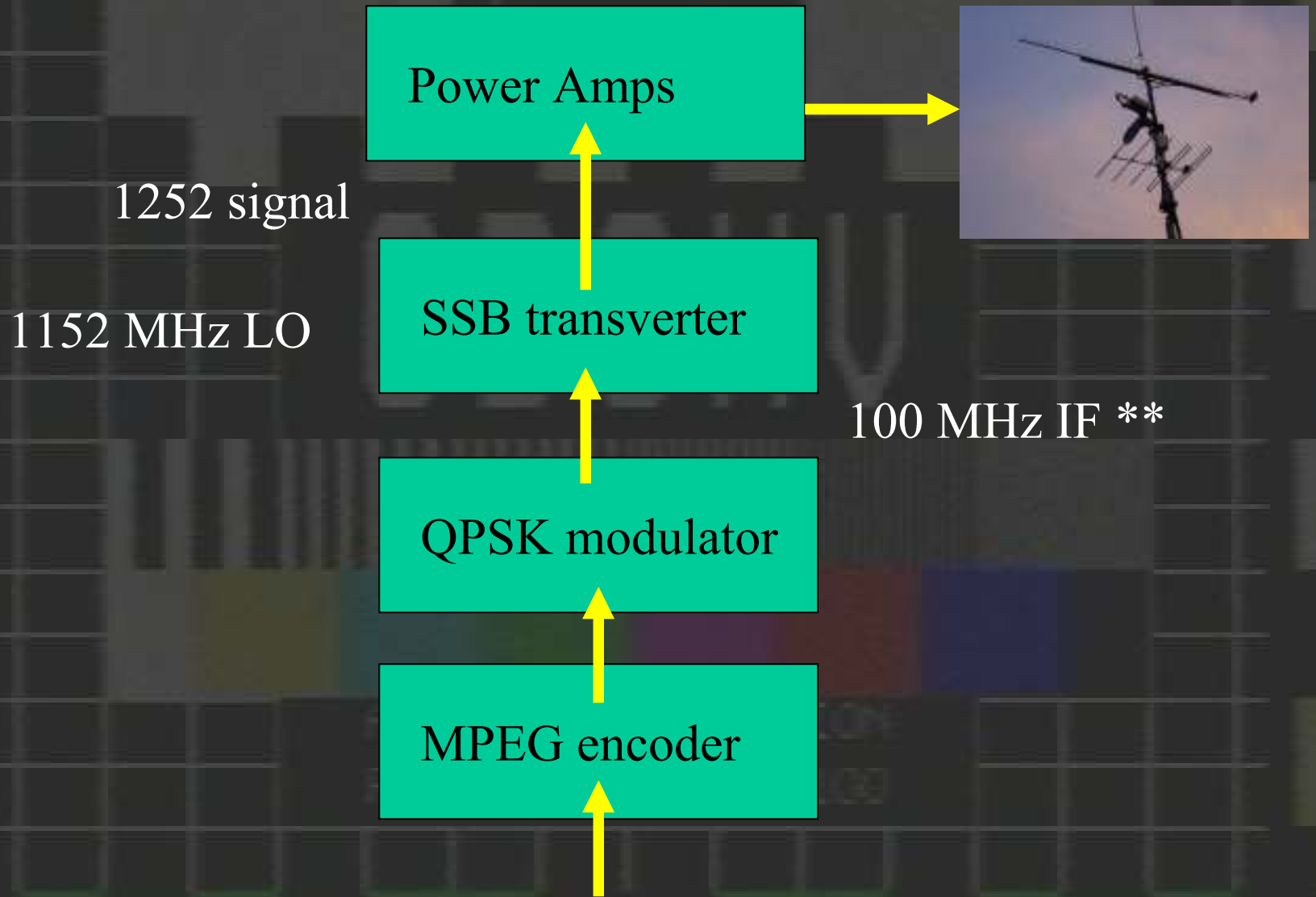
**And this is the result!**



# HV digital – Part 2

- Digital receiver fitted at HV
- Receives digital signals on 1252 MHz
  - 1252 because  $1152 + 100 = 1252$
- Same QPSK parameters as output
  - 4 M symbols,  $\frac{1}{2}$  FEC
- Automatic aerial selection to be completed ASAP
- Gives P5 in and and P5 out!!

# Pt 2 - in the shack



## Pt 2 – what do I need?

- Option 1 - Nothing
  - You can still use HV with FM input!
- Option 2- ex commercial kit
  - Big, heavy noisy, hot!
  - Cheap, it works but needs an SSB transverter
- Option 3 – SR systems
  - Encoder+modulator+ low power (10 mw)
  - Just feed the output in to your power brick
  - The MFG of the digital world
- Go on – experiment.....



# What next?

- Start using it!
  - Help HCTV lead the way!
- Receive first
  - Buy your HV special
  - When we all have digital rxr – then digital = default??
- Then transmit
  - Buy SR systems kit
  - Experiment
- Linking....