TechTalk95
The VK3RTV World-Wide DATV QSO Party

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In celebration of the 100 Years of Amateur Radio Victoria providing support for ham radio, organizer Peter Cossins VK3BFG and the hams associated with the VK3RTV digital-ATV repeater conducted the first world-wide DATV QSO Party on August 26-27 (UTC). The VK3RTV repeater is the first in Australia with a two channel multiplexed 100%-digital-transmitting output. In eastern Australia, many hams had contact directly line-of-sight by radio frequencies with the VK3RTV DATV-repeater (near Melbourne). In other parts of Australia, and Thailand, and United States, hams relayed their video to Peter VK3BFG by SKYPE video-connections…who then uplinked the video and audio to the VK3RTV digital repeater using the DVB-S protocol for DATV.

Getting a 1.2 GHz DATV Signal to Australia
The W6HHC digital-ATV signal was transmitted on 1.2 GHz using DVB-S protocol for DATV. The signal was then received on a nearby satellite-SetTopBox receiver that sent the video signal over by USB to a Dell notebook computer to be displayed. See **Fig 1** of the W6HHC DATV video being received in Orange, CA.

The next step was to take the video display on the notebook computer and send it over the internet by SKYPE video-connection (called "shared-display" or "shared-desktop") to Peter VK3BFG, the net control station for the DATV QSO Party. See **Fig 2** for a block diagram explaining the video signal path. Peter

Figure 1 – W6HHC 1.2 GHz DATV Video being Received on SetTopBox/Notebook-Computer

VK3BFG then uplinked the received SKYPE video to the VK3RTV DATV repeater on 1.2 GHz using DVB-S protocol. The VK3RTV repeater in turn downlinked W6HHC video on 446.5 MHz using the DVB-T protocol.

As shown in **Fig 2**, a 5.8 GHz link direct from the VK3RTV repeater site to an internet gateway sends the video over internet as streaming video to the BATC (British Amateur Television Club) server. Now the VK3RTV video could be seen all over the world through the www.BATC.TV/ internet URL. It was exciting to watch my DATV video come back from the VK3RTV digital-repeater via the BATC streaming server on the internet. This was an interesting combination of ham radio and internet!

Getting my DATV Signal to Australia via W6ATN
Amateur Television Network (ATN) links several ATV repeaters in California-Arizona-NV-NM including W6ATN located on Saddleback Peak in Orange County.

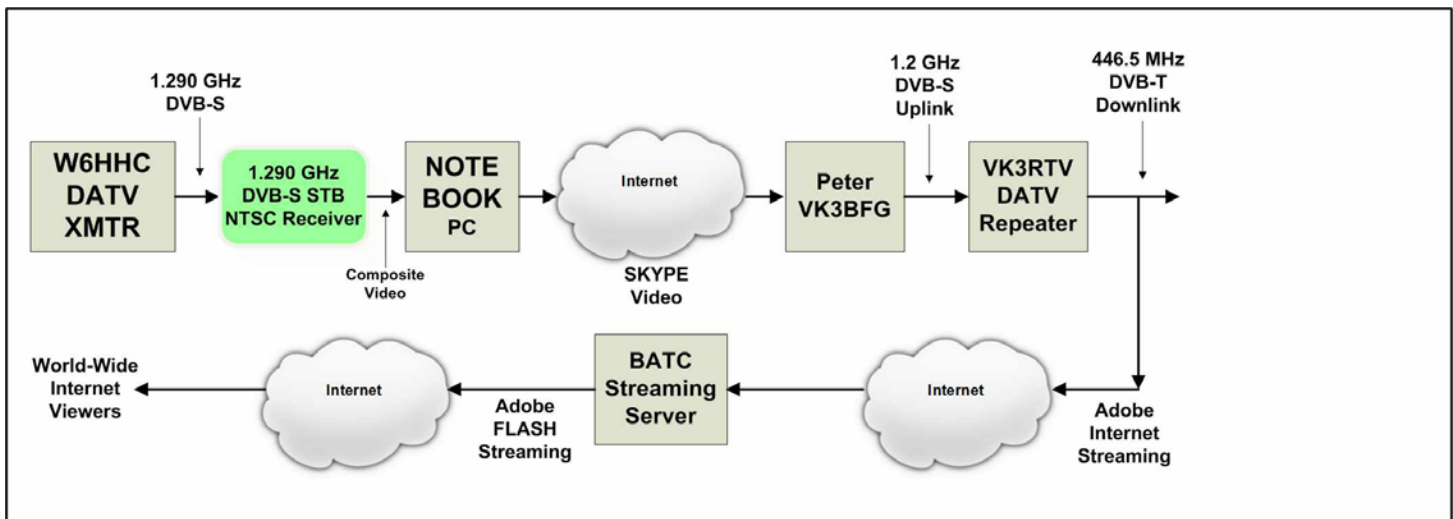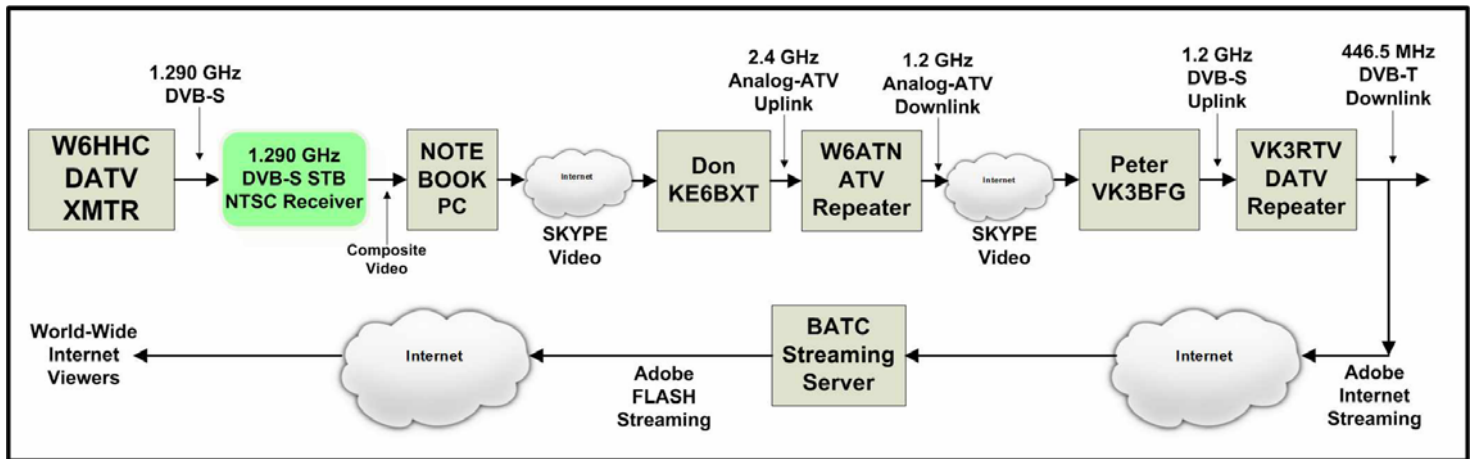### Figure 2 – Block Diagram Showing W6HHC DATV QSO Straight to Australia

Figure 3 – Block Diagram Showing W6HHC DATV QSO to Australia via W6ATN

Don KE6BXT in Mission Viejo worked very closely with Peter VK3BFG while planning for the DATV QSO Party to allow ATV hams in the US to uplink to W6ATN and then send the W6ATN repeater video to be sent to VK3BFG over the internet using SKYPE video-connection. Don KE6BXT also allowed me to SKYPE my DATV video directly to him. KE6BXT then uplinked my signal to W6ATN on 2.4 GHz and then SKYPE'd the 1.2 GHz ATV downlink to VK3BFG via a separate SKYPE video-connection. **Fig 3** has video path details.

Fig 4 – Typical VK3RTV Repeater Test Pattern seen over the Internet

Summary

The VK3RTV world-wide DATV QSO Party was a success! Peter VK3BFG reported that he logged a total of 65 QSO's during the DATV QSO Party event, including three VK3 portable DATV stations operating in the field for the event.

Figure 5 – The Larger Picture is Peter VK3BFG testing with Don KE6BXT (smaller PIX in lower corner) (photo courtesy of KE6BXT)

Don KE6BXT reported that 16 different US hams checked into (by RF or by SKYPE-video) the VK3RTV DATV QSO Party via ATN. As said earlier, I thought this QSO Party was really an interesting and exciting inter-mixing of digital-ATV, analog-ATV and internet. My only disappointment was that I could not watch the BATC streaming video on my iPAD. This small compatibility glitch was caused by Apple refusing to support FLASH-video on the iPAD or iPhone. I want to thank Don KE6BXT for helping me sort out a dozen SKYPE issues before the QSO Party and Peter VK3BFG who took the time to test with Don and me using SKYPE before the QSO Party. The DATV QSO Party was great fun!! I got to meet (see) a lot of DATV hams. I think this event was great promotion of DATV!!

Interesting DATV Links

- VK3RTV Digital Repeater WEB site – see **www.VK3RTV.com**
- W6ATN Amateur Television Network (ATN) – **see ATN-TV.org/**
- Amateur Radio Victoria organization – see **www.AmateurRadio.com.au/**
- British ATV Club - Digital Forum – see **www.BATC.org.UK/forum/**
- British ATV Club – select from about 25 streaming repeaters – see **www.BATC.TV/**
- German ATV portal for streaming repeaters and forum – see **www.D-ATV.net/**
- Orange County ARC newsletter entire series of DATV articles – see **www.W6ZE.org/DATV/**
- Yahoo Group for Digital ATV - see **groups.yahoo.com/group/DigitalATV/**