**A History of BRIGAND and Big Look**

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My name is Alan Cranston; I served in VQ-1from November 1964 to November 1968. Chief Sam Dunaway assigned me to the RADAR shop, and he was my first shop chief when I was stationed with VU-5, Atsugi from 1957 to 1960. After a couple of months I was then assigned to Special Projects to lead a project called BRIGAND. I think I was selected because I had just come from B school and instructor duty at Millington, TN.

I checked in to Special Projects and met Chuck Christman and Elmer Ackerberg, both civilians, and also met the shop technicians. Chuck said we were to build a new system from scratch and Elmer would design the circuits and we would wire it up. It was eight vacuum tubes with associated resistors, capacitors, servo and other components. This was before solid-state devices and computers and I can still see Elmer working his slide rule and writing down numbers. What a brilliant engineer and designer Elmer was when doing his thing! We had the metal shop make up eight boxes to mount the circuits in. Elmer finished the design and gave us a schematic and wiring diagram. We started wiring the circuits and worked a lot of overtime because we had to outfit six Willy Victors and two spares. We also had to configure a console in the aircraft to house the BRIGAND system. It was an exciting time when we first tested it! We experienced very few problems, and it worked as advertised!! I would say BRIGAND was ready around May 1965.

Now for Big Look. I remember Elmer giving us the drawing for Big Look and John Avery and I started hooking up Big Look in the Willy Victors around June 1965. This system required some very sensitive components and I remember hooking up TWTs (Traveling Wave Tubes), which I think we got from Yokosuka Naval Port. We installed three TWTs in series to make Big Look very sensitive. Again, Chuck Christman came up with the idea and Elmer Akerberg came up with the design. What a duo!

Mike Palmer served in VQ-1 from 1966 to 1969 and he was also in Special Projects. Mike did a lot of fine-tuning with the Big Look. He introduced the APA125 RADAR scope for Big Look, which had two cursors, enabling the operator to establish a permanent base line to intercept the signal across. This allowed quicker and more bearings to be given by the Big Look operator. Bearings used to be taken every three minutes, now, every minute. Mike also introduced a switch, with circuits, which would allow one sweep on our RADAR. Before, the operator had to run the magnetron current up with a toggle switch, and then toggle back down and that took time. Mike also worked with Elmer to flatten out the S and C band frequency responses on Big Look as there were a lot of holes in those frequencies.

This is the history of BRIGAND and Big Look from their inception. I was on the first deployment to DaNang, Vietnam with these two systems on September 3, 1965. I was also involved with the training on the systems so I flew around 240 missions in Vietnam and many flights in the Sea of Japan.