

JAL1628: Data/Information Comparison

RWJ 5/7/14

Abstract

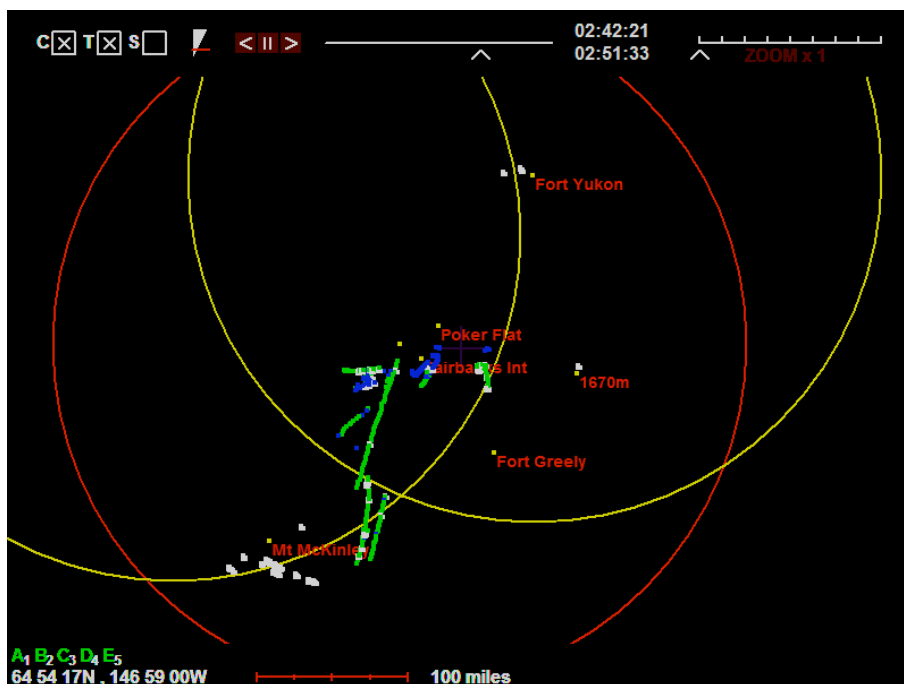
The JAL1628 UFO incident of 1986 provided data in the form of printed reports of recorded radar data (CDR Editor Listings), as well as a video of a computer recreation of similar data made by employees of the FAA. The following analysis compares these two sources.

The Printed Reports

With assistance, the author previously transcribed the available printed reports and converted these data into a form that could be animated, using software created for this purpose. An analysis was subsequently produced, in the form of a video, to be found here:

<http://www.youtube.com/watch?v=mR2WE3GQIMU>

The image below shows the portion of the data that this analysis will consider. Times shown are UTC:



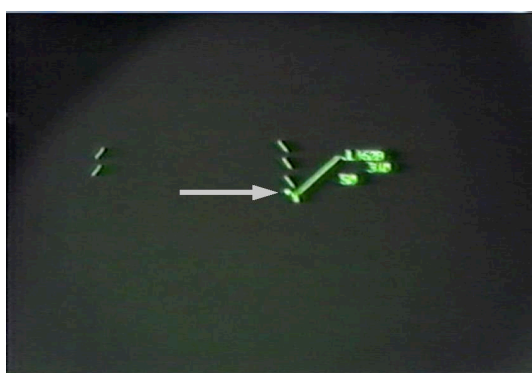
The red circle indicates the range of the Murphy Dome radar. The yellow circles indicate the range of the Fort Yukon and Indian Mountain radars, for which no data were available in the printed reports.

Due to technical difficulties, only a portion of the FAA video was available for the author to view, but this was sufficient to make a comparison between the two sources. The video was in VOB format and could be viewed using the Windows Media Center.

The viewable section of the video began after JAL1628 had completed its 360 degree turn. This portion of the data includes a split in the track produced by JAL1628's transponder, possibly caused by FRUIT (where the effect of multiple secondary radars cause a single radar to receive more transponder information than it was expecting). This anomaly is visible in both sources of data and provides strong evidence that the FAA video is based on data from the Murphy Dome radar i.e. the same source as the CDR Editor Listings.

Uncorrelated Primary Returns

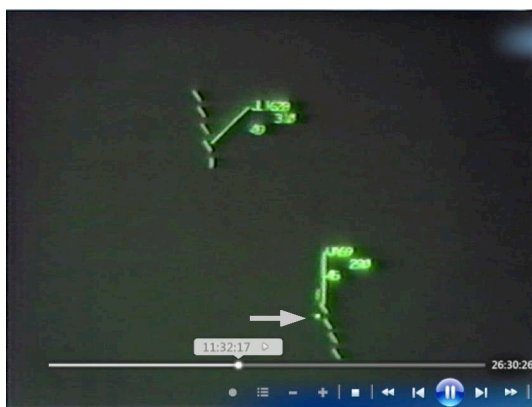
Uncorrelated primary returns are unique to each radar because of the position and timing of each return. Few such returns were visible in the FAA video and are shown in the images captured below. Arrows have been added to indicate the position of these individual returns:



UPR 1



UPR 3

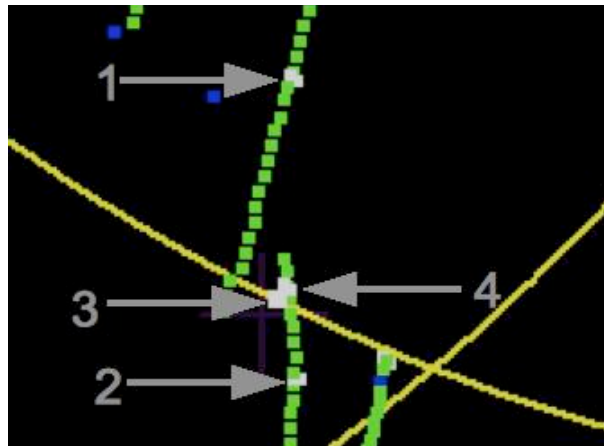


UPR 2



UPR 4

Identical uncorrelated primary returns are found in the CDR Editor Listing data:



FAA Data Source

From this brief analysis it appears that the data in the FAA video is consistent with the data within the CDR Editor Listings. It also appears that the FAA video contains no more information than is available in the CDR Editor Listings and the former was derived from a single radar source: Murphy Dome.

Orientation of images

By comparing the FAA video to the more recent animation frame, you will notice that the paths of the aircraft have a slightly different angle of orientation. This is due to the fact that the transcribed data were corrected for magnetic declination in order to combine data from 3 different radars (two of which were of no consequence). The fact that the data in the FAA video hasn't been similarly corrected, supports the conclusion that the FAA video shows data from one radar only i.e. Murphy Dome.