UFO UpDates Mailing List

72} part 1 - United Kingdom UFO Network

```
From: United Kingdom UFO Network <ufo@holodeck.demon.co.uk>
Date: Mon, 14 Apr 1997 19:33:00 +0000
Fwd Date: Mon, 14 Apr 1997 21:15:35 -0400
Subject: 72} part 1 - United Kingdom UFO Network

        ______ _______ _____
------ /  /  //  _____//     |---------------------------------------------
 U K  /  /  //  ___/ /  /  /                              April 14th, 1997
     /  /  //  /    /  /  /  N E T W O R K               Part 1  Issue 72
--- (_____//__/ -- (_____/---------------------------------------------


This issue comes in 2 parts. If any part is missing please mail:
ufo@holodeck.demon.co.uk giving the issue number. The issue will
be reposted to you. Please put the details as below in the subject
section e.g.  Repost {72}

In this issue:
-------------

Editorial:
---------

Internet Relay Chat made easier
World Wide United Kingdom UFO Network
Fly Groom Lake / Area 51 yourself

United Kingdom News
-------------------

[UK 1] Britain and US in "STEALTHY" link-up
[UK 2] Meteors spark rash of emergency calls
[UK 3] Birmingham International Airport
[UK 4] Why any old ion fuels the future
[UK 5] Viewers voted 'do you believe aliens exist'
[UK 6] RAF at full stretch - warning
[UK 7] The truth is out - Boscombe Down Stealth Crash
[UK 8] Sightings of curious triangular or wedge-shaped objects

World News
----------

[W 1] Space probe sees possible signs of life
[W 2] Bold journey for a crewless craft
[W 3] UFO Mag letter
[W 4] Spaceship that bodly goes and goes and goes
[W 5] Where 20 pounds buys you plenty of space
[W 6] 39 kill themselves in pact to join aliens

Internet Relay Chat made easier

Connecting to our weekly IRC (Internet Relay Chat) meetings on
Saturday nights is now easier than ever before. Our meeting's begin
at 11pm (2300hrs) UK time. Everyone is welcome and you will be made
most welcome. By simply using your Java compatible Web Browser and
```

going to either of the below sites, you will find pages there to join in using your actual Web Browser. Give it a try...it's easy.

http://www.holodeck.demon.co.uk/

http://www.crowman.demon.co.uk/

For those of you using any of the IRC programs, further connecting details can be found at the end of this e-zine.

My thanks to Paul & Crow for help with the Java.

World Wide United Kingdom UFO Network

Due to the rather clever way that the list server program i.e. the program that we use to send out the e-zine to you, can be interrogated we have rather surprisingly and delightfully found the following.

The e-zine now goes out to subscribers in 40 countries. We are now truly world-wide. Out of interest here are those countries:

* Country
* -------
* Argentina
* Australia
* Austria
* Belgium
* Brazil
* Canada
* Chile
* Colombia
* Denmark
* Finland
* France
* Germany
* Great Britain
* Greece
* Ireland
* Israel
* Italy
* Japan
* Lithuania
* Malaysia
* Mexico
* Netherlands
* New Zealand
* Norway
* Peru
* Philippines
* Poland
* Portugal
* Romania
* Russia
* Saudi-Arabia
* Slovenia
* South Africa
* Spain
* Sweden
* Switzerland
* Taiwan
* Turkey
* USA
* United Arab Emirates

Fly Groom / Area 51 yourself

by Leo de Vries

Note: This is a free download for Microsofts Flight Simulator

Groom Lake Area 51 scenery for FS5.1/FSFW95 (FS6) Version 2 with mountains

This is version 2 scenery for Groom Lake,aka Area 51. This was re-created using materials found from the net. Documentation is hard to find for this airport so I used some imagination in creating the layout.

I've added some of the surrounding mountains and roads. There are a

couple 9000+ foot peaks including Bald Mountain, so be careful.
Also, I am including a fictious ranch called, what else, Groom Ranch
on the other side of the Groom Mountain Range. Here you will find a
small airstrip where you can launch flights to "spy" on area 51 :-)

The required Zip file can be obtained from:

GROOM951.ZIP - Scenery for Groom Lake (Area 51) version 2 (MS FS6.0)

ftp.demon.nl in the directory /pub/ibmpc/flightsim

or from the link at

http://www.holodeck.demon.co.uk

United Kingdom News

[UK 1]******

Source: BBC Ceefax
Date: Thursday 3rd April 1997

Britain and US in "STEALTHY" link-up

British and US defence contractors are developing an armoured
reconnaisance vehicle using stealth technology to help make it
invisible to radar.

Such technology has already been used on the US Air Force F-117 and
B2 jets and has reportedly been employed on a US Navy warship.

No F-117 jets were shot down during the Gulf War despite numerous
bombing raids.

The new armoured vehicle could replace Britain's Scorpian and
Scimitar tanks.

[UK 2]******

Source: BBC Ceefax
Date: Thursday 27th March 1997

Meteors spark rash of emergency calls

Vivid flashes of light caused by meteors hurtling into the Earth's
atmosphere have sparked a flood of emergency calls.

Sightings of red and green streaks in the night sky were reported
along most of Britain's east coast.

In many cases people called emergency services, fearing they were
distress flares from boats in trouble.

But an RAF spokesman said meteor showers wee normal in late March.

[UK 3]******

Source: uk.ufo.nw
Location: Birmingham International Airport, West Midlands, UK
Date: Thursday 20th March 1997
Time: 0415 hrs
Weather: Dry and fresh
Visibility: Completely clear sky
Temperature: +7 deg C
Light pollution: Minimal
Witnesses: Two police officers

Comet Halebopp

During the evening of the 19th and throughout the hours of darkness
a.m. 20th March 1997 Comet Hale-bopp was clearly visible complete
with tail in our Northwesterly skies. It was as you can imagine
something of a spectacle. Every time one looked into the sky it was
there in all its glory.

At 0415hrs the two police officers who were on mobile patrol stopped
their vehicle in a dark and almost free from light pollution area to
take a closer look at the comet. The comet remained in its
northwesterly position at an approximate 45 degree angle from the
ground.

Both officers just happened to look up into the sky directly above them at a 90 degree angle and saw a very bright white light flash for a split second in the sky.

"It was almost as if someone very high up in the sky directly over us was looking down and taking a photograph with a flash gun" one officer said. "If the incident had been filmed and you could have viewed the film frame by frame you would probably have one frame where it would show the whole area bathed in a bright white light. It happened that quick." The officer continued "I wouldn't have mentioned it if my colleague hadn't have said 'what was that? did you see that flash of light?'"

Both officers have worked at the airport for some considerable time working nights as part of their regular shift pattern. They are fully aware of what aircraft look like during the hours of darkness and have also seen their fair share of shooting stars. But this was completely different. There were no aircraft in the sky prior to or after the flash. The intensity of the brightness for the split second it was seen suggested to them that it was not a shooting star or a weather condition.

"I got the impression that the heart of the light was an oblong shape" said one of the officers.

uk.ufo.nw says: To date no further reports of a similar sighting have been received. The skies were checked at the same time for the following few nights but to no avail.

[UK 4]******

Source: The Times Interface newspaper
Date: Wednesday 12th March 1997

Why any old ion fuels the future

Science fiction turns into fact as Clarke's theories shoot into space

Anjana Ahuja

Last week saw the opening of the Arthur C. Clarke building at the Defence and Evaluation Research Agency in Farnborough, Hampshire. How apt, then, that one of the laboratories on the fledgling site is devoted to ion propulsion, an idea first espoused in science fiction novels.

According to Neil Wallace and David Fern, who direct the research, ion thrusters will direct the spacecraft of the future. Why? Because they are cleaner and more compact than their chemical rivals, such as hydrazine.

Whereas chemicals are corrosive and explosive, ion propellants remain inert until activated. Because ion propellants are more efficient, only a tenth of the conventional propellant mass is needed. Less bulk means longer operating lifetimes for satellites whose orbits need regular tweaking. It also means cheaper launches.

The technique uses xenon, a gas belonging to the family of noble gasses. This chemical clan is renowned for its lack of reactivity. Ideal if you want it to sit quietly in a million dollar satellite for most of the time. Through bombardment with electrons, the atoms in the xenon gas are stripped of one of their outer electrons. Because the resulting plasma is soup of charged particles, it will respond enthusiastically to an electric field.

So when 1100-volt field is applied over a gap of less than a millimetre, the xenon ions shoot across the gap. This exhaust velocity, which can reach 60 km/s, creates a thrust which propels the spacecraft forward. "Chemicals can only achieve around the 3 km/s mark," Dr Fern says. "Because thrust is a direct trade-off between mass and velocity, the higher the speed, the less mass you need." Ion propulsion may also have another important spin-off. Certain orbits are difficult to achieve fro Earth, such as the solar polar orbit travelled by the Ulysses spacecraft. In these cases, craft pass large bodies (Jupiter, for example) to get a gravitational kick.

These so-called slingshot manoeuvres can take years to achieve, and launch must take place during a narrow "window" of dates in order for the kicks to be timed correctly. Ion thrusters remove the

necessity for such lengthy detours, although it might take as long to reach the orbit. However, these measured orbit changes would cover more interesting regions of space, and banish reliance on windows.

[UK 5]******

Source: Teletext 'Your Verdict' on Aliens - phone in poll
Date: week of 31st March to 7th April 1997

The US Pentagon has dismissed UFOs so we asked if you believe aliens do exist - Viewers voted:

YES 88% - NO 12%

uk.ufo.nw say: From time to time you will see reports in the e-zine sourced from: Teletext & BBC Ceefax. These are free text services available to all UK television users.

[UK 6]******

Source: Teletext News
Date: Saturday 5th April 1997

RAF at full stretch - warning

The RAF is at full-stretch and further commitments would threaten safety and the air force's operations edge.

Chief of the Air Staff Sir Michael Graydon is warning the RAF urgently needs a period of stability after years of successive cutbacks.

[UK 7]******

From: duncan@life.com
Source: AirForces Monthly
Date: March 1997

The Truth is Out

What is the truth behind the mystery crash two and a half years ago at Boscombe Down, the Ministry of Defence's top secret flight test centre? Ren Hoek and Marco P Van der Valk can now reveal the facts.

The Ministry of Defence would have you believe that nothing untoward occurred at Boscombe Down, Wiltshire on the night of September 26, 1994. But something sinister did happen at the airfield that night. The fact that the incident involved the USA's most highly-classified black project aircraft helps to explain the scale (and to some extent the subtlety) of the disinformation campaign which ensued.

The story had begun to unfold on that windswept night as the aircraft began its take-off run along Runway 23. Whatever happened in the few seconds following application of take-off power was sufficiently catastrophic for the two American crew members to abort departure immediately.

Military controllers at the London Air Traffic Control Centre (LATCC) were alerted either directly or indirectly to the fact that a serious incident had occurred, and that the runway was blocked. Later that night, the stranded aircraft was seen by at least one witness near the eastern end of Boscombe Down's Runway 23. A tarpaulin-covered frame had already been erected above the aircraft's forward section, around which were number of emergency vehicles. The rear section appeared unnaturally elevated by virtue of an apparent nose wheel collapse, the only clearly definable characteristic being inward canting twin fins.

Early the next day, an Army Air Corps Agusta A109 transited to Boscombe Down from Bournemouth-Hurn. All four of these helicopters are exclusively operated by the SAS (Special Air Service), which has a base at Poole, near Hurn. Is it possible that a covert sealing-off operation was set in motion? It has also been suggested that at least one RAF Chinook was scrambled from Odiham to Boscombe Down late that night for just that purpose.

The aftermath

On September 28, the DRA retired one of its remaining Buccaneers, XV344, ironically nicknamed Nightbird. Though unremarkable in

itself, this occasion afforded an unexpected opportunity... As the Buccaneer was towed out of the DRA/DTEO hangar on Boscombe Down's north side, and before the hangar doors were hastily shut, the incident aircraft was seen in the forward left hand corner of the hangar, which is not visable from the normal viewing area a short distance beyond the threshold of Runway 23. The entire centre section was covered by tarpaulin, but both the front and rear of the aircraft were visible. The most prominent features were the inward canting twin fins and chines extending rearwards from the nose. The canopy was open and particularly noticeable because it was hinged at the front and not the rear. The aircraft was large fighter size and was painted charcoal grey.

The sighting was followed that same evening by a separate sighting of a grey USAF C-5 Galaxy on the ground at Boscombe Down. The aircraft had been monitored on airband radio as it cancelled its flight plan to the USAF European HQ at Ramstein in Germany, and requested a diversion to Boscombe Down. On arrival, the C-5 parked on the ramp outside DRA/DTEO hangar.

It is likely that the incident aircraft was normally housed in one of Boscombe's hardened air shelters (HAS). However, in the aftermath of the incident the first priority would have been to move the aircraft under cover to a place where the C-5 could undertake a loading or unloading procedure with minimum risk. With the taxiways leading to the shelters unable to accommodate an aircraft as large as the C-5, the most logical option would indeed have been to move the aircraft to the DRA/DTEO hangar. Despite these precautions, an unidentifiable tarpaulin-covered object was seen to be loaded into the C-5.

The visit by the C-5 represents a crucial link in the chain of events. Its arrival was unexpected by virtue of the inbound flight plan to Ramstein, indicating that maximum effort was made to disguise Boscombe Down as the intended destination. Once on the ground, however, the outbound flight plan was filed using Boscombe Down as the point of departure. This flight plan (evidence of which has since disappeared) used a nonstandard callsign of Lanc 18, but more noteworthy was its destination which was listed as 'KPMD'. This is the ICAO airfield designator for Palmdale, California, better known as Air Force Plant 42 and home to the assembly lines of both the Lockheed and Northrop Advanced Development Companies. Palmdale also happens to be the operating base for the two specially modified C-5Cs (serials 68-0213 and 68-0216) officially used for carriage of satellite equipment and other outsize loads in support of the Space Shuttle Programme. The mystery is - why were these aircraft not modified for this purpose until at least the early 1990's to support a programme which had already been existing for over 10 years, unless they are in fact used for another purpose entirely.

The eye witness who observed the C-5 also saw the departure of a USAF Beech C-12 shortly after the C-5 on the night of the 28th - a visit which has not been documented before - while an apparently unmarked Boeing 707 was also visible at Boscombe Down,

It is believed that a similarly-unmarked Boeing 737/T-43 was present that night. This was undoubtedly one of the aircraft operated by EG&G Special Projects based at Las Vegas and used exclusively as crew/technician support for black projects operating from the Groom Lake and Papoose Lake bases northwest of Las Vegas.

On the morning of September 29th, an unknown aircraft using the callsign N1178X was monitored on the London Military Southwest frequency (133.3) as it climbed on a north-westerly heading towards the Exmor reporting point before requesting an upper airways routing northbound on the Upper Alpha 25 airway. Although N1178X is actually allocated to a US-based Piper Cherokee light aircraft, the altitude and airways request prove that the aircraft monitored was definitely a jet.

It becomes all the more interesting to note that the airways join was followed by a request for a routing "direct to Machrihanish", a VOR in western Scotland better known as the airfield which has been linked, somewhat fancifully it had seemed until now, to operations by the mysterious Aurora project!

So why was a bogus callsign used? N1178X could have been an EG&G 737, on a tasking sufficiently secret to justify the use of such a callsign. Interestingly, three of EG&G's six 737s are officially registered N5175U, N5176Y and N5177C. Note that the middle three characters are '175','176' and '177' respectively. Is it therefore

more than a coincidence that the same three characters of the bogus callsign read '178'?

If, however, there is any significance in the 'X' suffix to the callsign, it may be worth noting that when CIA-operated U-2s were ferried back to the USA from forward operating locations abroad for rework or maintenance, they too carried and used fictitious callsigns with an 'X' suffix.

A mystery Gulfstream blows in

The possibility of a CIA connection is bolstered by evidence surrounding a Gulfstream IV registered N604M which visited Boscombe Down in the immediate aftermath. This passed through on the morning of Sunday October 9, although the DTEO at Boscombe claimed it was collecting a VIP who had played golf at a nearby club!

Documented movements of N604M through the UK in the weeks following the incident have raised a number of questions regarding its exact role. Prior to its visit to Boscombe Down, the aircraft had made a one-hour stop at Heathrow on the evening of October 5 and by October 7 had appeared at Southampton. One night before the incident (possibly September 22) both the University of Southampton and RAF Lyneham had reportedly tracked an unknown aircraft in Boscombe Down's vicinity. Perhaps significantly, the University of Southampton has a world renowned Institute of Sound and Vibration Research (ISVR) which has specialist equipment for research in this field.

The same night witnesses had heard a jet aircraft making an unusual noise described as a "loud rumbling like a freight train". This was reported on local TV news.

The whereabouts of N604M on October 6 and 8 are unclear, but by the 9th it had arrived at Boscombe Down, from where it departed to Luton. It was seen at Luton surrounded by very tight security, and remained there for approximately one hour before departing to Farmingdale, New York. This is a routinely-used corporate airfield, but is also adjacent to the plant used by the Northrop Grumman Electronic Systems and Integration Division, the significance of which will become clear shortly.

Meanwhile, on November 12, 1995 - well over a year after the events at Boscombe Down - N604M had positioned in to Heathrow from Exeter, Devon, again under extreme security. It left for Geneva two days later and flew back to the USA via Shannon on the 15th. Exeter had also played host to a visit by USAF EC-137D (serial 67-19417) on October 31, 1994 (little more than a month after the incident).

This EC-137D is the only one of the USAF-operated C-135/C-137 derivatives to use its construction number as its military serial. This justifies the belief that although 'officially' operated by the USAF from Robins AFB, Georgia, it is in fact used by a range of Government agencies, quite probably including the CIA. As such the fact that both it and the Gulfstream visited Exeter may be worthy note.

Of more direct relevance is the fact that this aircraft is almost totally devoid of markings except for the very small serial painted on the rear fuselage, a serial which would only be discernible in daylight. Could 19417 therefore have been the mystery 707 seen at Boscombe Down on the night of September 28, 1994?

Other known visits of the Gulfstream to the UK (in January 1995 when it departed to Riyadh, Saudi Arabia, and in January 1996) have used Luton. It is noteworthy that the aircraft has paid several visits to both Luton and Heathrow, because American business jets tend to favour one London airport over another due to handling arrangements. This suggests the Luton visits may be directed towards a specific purpose.

Luton, like Farmingdale, can all to easily be dismissed as a routinely-used corporate facility, but it is also the nearest Gulfstream IV usable airfield to the British Military Intelligence (MI6) base at RAF Chicksands, Bedfordshire. MI6 has always had a particularly close working relationship with the CIA.

Since the closure of Alconbury and Bedford/Thurleigh, Luton is also one of the closest usable airfields to the facility at Molesworth in Cambridgeshire now used as a Joint Analysis Centre for live video and other intelligence collected by US reconnaissance aircraft and downlinked via the Intelsat 602 satellite.

Speculation regarding the significance of N604M's movements is tempting, but one thing is clear - despite the DTEO's claims to be encouraging increased corporate usage of Boscombe Down, it is highly unusual for an aircraft such as the Gulfstream to have visited this airfield, unless of course its passenger had good reason to be there...

Per ardua ad ASTRA

The Boscombe Down incident aircraft is designated ASTRA, was referred to as AV-6 (Air Vehicle Six, its construction number), and was allocated USAF serial 90-2414. It routinely used frequencies in the 500 to 510mhz range (highly unusual and beyond the tuning range of standard UHF scanner radios) and was operating with the callsign Blackbuck 11. It had been operating in tandem with at least one other aircraft.

ASTRA is an acronym standing for Advanced Stealth Technology Reconnaissance Aircraft. The prime contractor is Northrop, with McDonnell Douglas (MDC) involvement, and the aircraft is directly related to the YF-23 (unsuccessful ATF contender).

No doubt most controversial of all, the ASTRA is believed to be the Mach 5+ hypersonic SR-71 replacement most commonly referred to until now as Aurora. This, along with its YF-23 lineage, will be a major surprise to those who either denied the existence of a manned hypersonic project, or assumed it to be a product of Lockheed's 'Skunk Works'.

Lockheed has consistently denied involvement in a hypersonic project but in June 1991, Northrop had quietly set up its own version of the 'Skunk Works', called the Advanced Technology and Design Center, to pursue what it acknowledged to be both manned and unmanned 'black' project developments.

There has been no clue since then as to what projects have been developed, but it now seems clear that the Center's establishment could have coincided with the start of ASTRA's production. It is also notable that Northrop always refers to its prototypes as Prototype Air Vehicle (PAVs), thus lending weight to the theory that the reference to 90-2414 merely as Air Vehicle (AV) suggests it to be a production aircraft and in operational service.

The reference by Air Vehicle number is reminiscent of a system the CIA used to employ when flying U-2s. They identified these aircraft by the Lockheed construction number, known as the 'Article' number, rather than the allocated USAF serials, in order to minimise exposure. In fact these Article numbers were the only visual form of identification worn by the U-2s when flying CIA missions.

Why F-23? - the unanswered questions

The applicability of the YF-23 to the ATF role may well have been undermined by development of the ASTRA. Unlike Lockheed with its YF-22, Northrop did not attempt to demonstrate the missile launch capability of the YF-23, nor did it explore high-alpha (other than in the wind-tunnel), nor did it incorporate the vectored thrust option patently favoured by the USAF. Interestingly, an early 1995 report which claimed Aurora had been cancelled, suggested that its powerplant had incorporated an advanced form of vectored thrust! It was claimed that the powerplant was indeed a pulse detonation wave engine (PDWE) as had always been assumed, though a rocket-based combined cycle (RBCC) engine has also been put forward as a likely option.

Meanwhile, it was also notable that Northrop/MDC flew considerably fewer hours and sorties with the YF-23s (65 hours in 50 sorties, compared to 92 hours in 74 sorties for the YF-22s), and used some parts on the YF-23s from existing MDC types such as the F-15E (cockpit software) and F/A-18 (undercarriage).

Despite the combination of cost-cutting measures adopted by Northrop/MDC, their overall expenditure was no less than Lockheeds.

The Lockheed PW F119-powered YF-22 was selected for the ATF role in April 1991, leaving Northrop/MDC's YF-23 as the unsuccessful aircraft, and GE's revolutionary variable cycle F120 as the unsuccessful engine.

Why is it, then, that the maximum supersonic cruise speed without

afterburner ('supercruise') attained by the F120-powered YF-23 has to this day remained classified?

Speed, however, was not the YF-23's only asset. Paul Metz, Northrop's chief test pilot on the programme, highlighted its excellent roll and pitch performance, superb aerial refuelling characteristics (the SR-71) was infamously demanding in this respect and impressive supersonic turn capability. This is certainly a sound basis on which to develop an SR-71 replacement.

There may be a remote possibility that the YF-23 prototypes, which somewhat unusually were rolled out of Edwards AFB and not Palmdale, were not flown merely as ATF contenders. It was said that the aircraft were moved into secure storage at Edwards in January 1991 immediately the ATF test flying ceased, yet they did not become visible there until early 1994.

Could the YF-23 have been a failed attempt to mould a pre-existing airframe optimised for stealth and speed cruise to a totally different role or was it even a ploy to divert a certain amount of funding to the ongoing development of the ASTRA, in which it may have played a crucial role?

Northrop/MDC's approach to the ATF competition was inflexible - the finished YF-23 was, unlike the YF-22, almost identical to the original 1985 proposal - but were the team inflexible for a reason? Was the YF-23 a means to an end rather than a realistic attempt to secure the ATF contract?

Northrop/MDC SR-71 replacement

Lockheed's recent expertise in stealth technology was built around the faceting technique developed for the F-117. Northrop, however, approached stealth differently and incorporated these ideas into both the YF-23 and B-2. It appears that the Northrop approach was considered more suitable in overcoming the major problems in developing a stealthy hypersonic successor to the SR-71. MDC, meanwhile, have made in-depth studies of hypersonic strike aircraft as well as RBCC engines.

With stealth having been a prime concern in the development of the ASTRA, it should be noted that as far back as 1968 Northrop was evaluating electrical forces to condition the air flowing around an aircraft at supersonic speeds in an attempt to reduce radar cross section. As recently as January 1996, Pentagon officials admitted that there are at least two 'black' projects flying from the secret base at Groom Lake, Nevada testing this technology, which involves activation of an electrical charge to attenuate radar reflections. Previously employed disinformation tactics suggest that this 'information' leak may actually indicate at least one such project to be operational already.

The same Pentagon officials alluded to associated research which has already shown that aerodynamic drag (including airframe heating) can be reduced, and shock wave build-up delayed, by applying such an electrical charge. These benefits would be crucial to the effectiveness of an inherently stealthy design that cruise hypersonically, and of course could represent the 'Advanced Stealth' technology embodied in the ASTRA.

It is beleived that Northrop's own B-2 was the first type to employ such field generation devices, on the wing leading edge. The evidence suggests that Northrop uses a similar system on the ASTRA to solve the problem of heat-induced radar cross section, thus combining hypersonic capability with stealth.

Further evidence supporting the technical advances made by Northrop emerged in February 1996, when a Northrop subcontractor inadvertently released information which indicates that the company has also been testing a distributed-exhaust/pressurised wing concept. The technology was said to be related to "at least one US Department of Defence 'black' aircraft project". It may be that the ASTRA is actually the project involved (rather than a special forces transport type as suggested), given that the concept involves using bleed air from the engines and pumping it through the wing's upper surface, and given that the YF-23 had bleed air doors in the wing upper surface near the leading edge wing root, the purpose of which was claimed to be suction removal of the boundary layer from the underwing air intake.

Development time frame

In late April 1996, the USAF released first details of Northrop's Tacit Blue stealth technology demonstrator. The existence of this project had hitherto been entirely secret. It was announced that the aircraft was flown for 250 hours between February 1982 and February 1985 to test technology eventually used in the B-2 'and other stealthy aircraft programmes'. Details on the rear fuselage, and more significantly, the wing leading edges have not been fully divulged. The aircraft's general planform equates much more to the YF-23 than it does to the B-2, given that it has stub wings and twin fins. An interesting feature is the single upper fuselage air intake, despite the fact the aircraft had twin engines.

It seems quite likely that Tacit Blue was actually the stealth technology demonstrator for the ASTRA in the same way that Have Blue was for the F-117, the time frame certainly fits.

The first evidence of flights by hypersonic vehicles emerged in 1989, with eye witness reports of the characteristic 'doughnuts on a rope' contrails produced by the pulsing motion of a PDWE, which detonated the fuel in the jet pipe and expels some of the gases created through inlets at the forward end of the pipe.

At this early stage in flight testing there were probably no more than two prototypes in the programme, with 1987 fiscal serials corresponding to the original project go-ahead. In February 1985 (just after Tacit Blue was grounded), there was an 'inadvertent' leak in the US federal budget regarding Aurora funding, which showed 80 million dollars being requested for FY1986, rising to a massive 2.2 billion dollars in 1987, the same year in which the YF-23 prototypes were funded. If the ASTRA was nested in Aurora, or indeed came to be the new name used when Aurora's cover had been blown, then the funding request is consistent with the funding of one or two prototypes in 1987, which would not have been completed and flown until 1989. As a direct comparison, the A-12/SR-71 project was given the final go-ahead in January 1960 with an order from the CIA and the aircraft were thus allocated 1960 fiscal serials, despite the first flight not taking place until two years later in April 1962.

The greater proportion of hypersonic aircraft activity took place after February 1992 with night sightings of unusual activity at Beale AFB, and loud anomalous noises described as similar to sustained artillery firing, likely to have been caused by ground running of the PDWE.

The aircraft were only present at Beale for a matter of months, probably for pre-operational familiarisation. In addition, it is known that a security policeman at Beale reporting seeing a 'YF-23-like' aircraft hangared there (in one of the SR-71 sheds) in early 1992. There was apparently little attempt to disguise the aircraft's presence, because it was surrounded by personnel wearing blue MDC overalls. The YF-23 prototypes themselves had of cause ceased flying in late December 1990, pending the ATF contract award in April 1991.

In April 1992, radio transmissions between Edwards AFB and a high-flying aircraft using only the callsign Gaspipe were monitored. Operations from Edwards indicate that Gaspipe, whatever it was, was still undergoing trials at that time. On this occasion, it was heard passing through 67,000ft (20,420m) in the descent, and being given distance/height vectors similar to those provided to space shuttles. The only known aircraft capable of reaching 65,000ft (19,812m) and above are U-2s and SR-71s and perhaps, surprisingly, defence officials denied that any such aircraft were in the air at the time and it is equally unlikely that either of these types would have been using such a strange callsign. However, given the descriptions of the PDWE and the sound it makes, the callsign would be plausible for a PDWE-powered vehicle. The first production ASTRAs appear to have been funded either in 1989 or 1990, given that 90-2414 is the number 6 aircraft. The fact that Northrop's B-2 first flew in 1988 and was not delivered to its operational unit until 1993 suggests that it was probably around five years before the equally revolutionary ASTRA reached operational status, namely 1994.

Why hypersonic?

The YF-23's supersonic performance was phenomenal. At 41,000ft (12,497m) (over 30% below its 65,000ft maximum ceiling) the GE F120-powered version is believed to have achieved at least Mach 1.8 and possibly Mach 2+ in supercruise (i.e. without afterburner), despite an unfavourable underwing fixed inlet configuration.

When it was suggested that Lockheed's YF-22 was more manoeuvrable
but less stealthy and noticeable slower than the YF-23, USAF Tactical
Air Command commander General Mike Loh would only say:

"It is not true that one is noticeably more manoeuvrable and not
true that one is noticeably stealthier."

The implication is that the YF-23 was indeed noticeably faster, and
that the true measure of its speed was classified to avoid any risk
of compromising the ASTRA.

The fact that the ASTRA is derived from (or inspired) the YF-23
clearly suggests therefore that it would be more than capable of
matching the Mach 3.5+ supersonic performance of the SR-71. Mach 5+
speeds are surely attainable given the numerous advances in American
military technology in the years since the SR-71 was designed, not
least those attained by Northrop.

-[continued in part 2]-