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MRCA
the Khaki Panther

MRCA stands for Multi-Role Combat Aircraft, alias Panavia 200 Panther—khaki. Panther for those who admire the very different escapades of television's pink panther.

MRCA crystallised during the last five years from a series of British, German, French, Italian, Netherlands and Belgian projects, which formed, merged, changed, or dissolved in parallel with national and industrial politics and purses. When MRCA first gelled as such, there were six national partners. The project study phase was launched during 1969 between Britain, Germany and Italy. Italy had doubts and the firm decision to launch the prototype building stage was taken last July by Britain and Germany alone. Italy rejoined the programme last October.

There were originally single-seat and two-seat versions, but money was saved earlier last year by settling on the two-seater. Now, the intention is to build seven prototypes, three in Britain, three in Germany and one in Italy. First flight is scheduled for September 1973. First production aircraft should be delivered in 1976.

The current intention is that Britain should have 358 Panthers, Germany a maximum of 425 and Italy about 100. Consequently, the costs are being shared at 42½% each in Britain and Germany and 15% in Italy. By the same token, the amount of work should be shared in equivalent proportions. Nose and tail will be made in Britain, centre fuselage in Germany and wings in Italy. The engines are similarly divided and avionics production will, in due course, follow an equivalent pattern.

British Aircraft Corporation in Britain, Messerschmitt-Bolkow-Blohm in Germany and Fiat in Italy have formed a joint company in Munich called Panavia to manage the whole programme. Rolls-Royce in Britain, Motorenund Turninen-Union in Germany and Fiat in Italy have formed Turbo-Union Ltd to develop the RB.199 three-shaft turbofan engines. EASAMS, the consultancy company in GEC-Marconi Electronics System and Elektronik System Gesellschaft formed Avionica to study avionics requirements. Ranged around these companies are the various government management and control committees. It's complicated, but it seems to be working.

The MRCA Panther aircraft is illustrated above. It will be a twin-engined, two-seater with a swing wing designed to allow it to use short runways, carry big loads and fly extremely fast with the wings at appropriate sweep angles. The detailed military missions required by the three countries are very varied, but the swing wing gives the best prospect of combining in one basic airframe the ability to carry heavy loads of weapons for ground attack, penetrate fast through enemy defences or fly fast and high to intercept enemy intruders.

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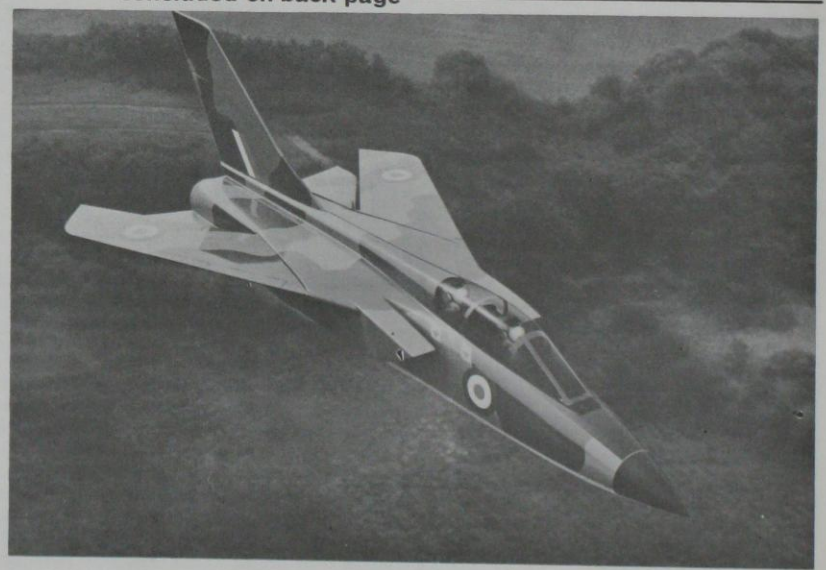


Panavia 200 Panther, the Multi-Role Combat Aircraft, is being developed jointly by Britain, Germany and Italy. Here is an impression of it flying fast and low with its swing wings swept back.

TOD Slaughter

We learn with deep regret of the death of E.G. "Tod" Slaughter on Saturday 9 January after a ten-week illness.

Tod joined EFA in 1963 as an author in AS&RD technical publications and transferred in October 1969 to ACD technical publications section, which he helped to build up to its present high standard.

He will be sadly missed by all who knew him for the loyalty and assistance he gave to his friends, who were his workmates. We all extend our sympathy to Mrs. Slaughter and the family.

The Great Steaming Tomato Competition

"A STEAMING TOMATO" is just one of the descriptions of the emblem on the 'Friends of IN Division' tie illustrated here. For those who have not yet noticed IND people wearing the tie, the emblem is a rosy red apple, surmounted by two white mathematical integral signs. In fact, Brian Teather, the tie's designer, gives this official description:

"A red apple below a white double integral sign all on a dark blue background. The apple, which appears to be falling, commemorates the one which helped in Isaac Newton's formulation of the laws of motion. These are the basis of acceleration measurement in inertial systems. The double integral sign relates to the function of the electronics associated with IN systems, which calculate distance gone by integrating acceleration of the vehicle with time".

A PRIZE

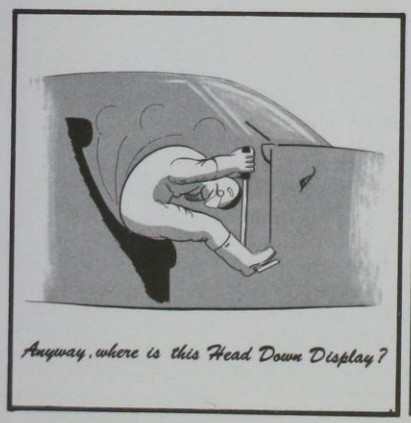
What's your interpretation of the motif? The prize for the sender of what is judged to be the wittiest and most appropriate description will be the last of the exclusive Apple Ties.

Entries please to Mrs. L. Jones, EFA News, (Int 347) by February 5 saying "my interpretation of the IND tie motif is....." Give your name, division and internal telephone number. The judges will be Mark Lambert, Public Relations Executive, Brian Teather, designer of the motif and Geoff Rands, IND Sales Manager. All the usual conditions about decisions being final and no correspondence etc. apply.

To give you a start here are some more of the remarks passed about the motif (the printable ones anyway).

Two worms leaving an over-ripe cherry
A falling strawberry
The Adam and Eve Club

The result will be announced in EFA News. We hope to run a series describing the numerous ties designed and worn by members of EFA. If anyone has a tie which may be the first ever EFA or Divisional tie, let us know. We'd like to start the series at the beginning.



ERIC ATKINS MOVES ON...

After six years as EFA's chief accountant and then Controller and Secretary, Eric Atkins has moved on to become financial director of Muirhead & Co in South London.

Eric first joined Elliott Brothers in 1961 as management accountant at Lewisham. Between Lewisham and Rochester he spent some time as contracts manager with an advertising agency.

Ups and Downs of the Climbing Club

ALL in all, 1970 was a year of hang-ups reports the Elliott Climbing Club. Eric Gilroy's international expedition to Ben Nevis saw the gallant heros George Tennant (FARL), Len Martin (ISD) and Eric himself (IND) taking part in the rescue of four climbers on the Ben. Dave Fisher (ATED) together with Shaun Martin (ACD) and Chris Barber (AS&RD) held a successful two-week drinking festival in Switzerland: some say they did climbing too.

Ray Dennis (FARL) and E.J. Tranter "the hippie plumber" (Fisher) spent a pleasant weekend late in the summer sunbathing at Swanage in Dorset. And as if to add to the confusion club secretary Sandy Sclater and Dave Fisher have left Elliotts. It is said that Dave has gone to Germany to look for a busty Bavarian bird.

Anyway, now 1971 is here and we hear that Eric Gilroy's international team is off again to Scotland. Some people never learn!

Should all this waffle and intrigue have had no effect, and you are interested in joining our merry band please contact Ray Dennis (FARL) in the old Spembly building, Medway 44433 Ext 32.

Len Martin (ISD) leading an unrecorded and possibly new route on Scout Crag in the Lake District, Shaun Martin (ACD) seconding.

Oscar for our Teds

The Elliott Drama Society (TEDS) have recently been awarded a literary 'OSCAR' by Jimmy Hodge, reporter of the Chatham, Rochester and Gillingham News, for the best amateur production of 1970.

Gill Barnes, secretary of the club, says about their immediate plans, "We have been invited to present some entertainment to the Over 65's at their party in February. Our next production is to be a costume drama which we hope to stage at the end of March.

"We need more members, acting and non-acting, and we hope to compile a patrons' list of those people who wish to be kept informed of the society's activities."

Anyone interested, please contact Gill Barnes on internal 418.

Elliott Boosts County Netball

Members of the Elliott White Juniors netball team who will represent the Walderslade Girls Secondary School in the inter-county championships. Standing, left to right, Linda Gibbons, Lorraine Smith and Julie Whittingham. Kneeling, Pauline Scott, Carol Munn and Pat Terry.

ELLIOTTS Netball Club has been training and coaching a team of Walderslade Girls Secondary School girls. Alan Springett (ISD) has been so successful that the team has won its way through to the inter-county schools championships by beating Maidstone Girls Grammar School in the Kent Trials.

When they are not playing school matches, they are known as Elliott White Juniors.

Mrs. P.E. Hurley, the PE mistress at Walderslade school is obviously delighted with their success: "The extra training and playing for Elliott has improved their chances of success, as this has enabled them to get a high class of competition". Final comment from Alan Springett, "Well done you Terrors".

EFA ACHIEVES SUPERSONIC 'FIRST'

THOUGH the fact was not published until some time after the event, Concorde's first flight at Mach 2 (twice the speed of sound) was controlled by the FCD autopilot! The special climb and acceleration programme built into the autopilot was used to control the climb from 10,000ft right up to 52,000ft, and then to accelerate Concorde to the magic speed figure and hold it steady for a further 15 minutes or so.

It can rarely, if ever have happened that a significant increase in speed in a high performance aircraft has been made "hands-off" with the autopilot before it was made with the pilot actually handling the controls.

Concorde 001 reached Mach 2 on November 4 over the Atlantic off Brittany during its 102nd flight, at a point in the test programme when the two prototypes had clocked up almost 300 hours' flying. The FCD autopilot has performed extremely well-so well that the French chief test pilot Andrè Turcat, one of the most experienced test pilots in the world, remarked on the autopilot's performance as a feature of the test programme.

Although the autopilot is not being formally tested yet, it is being used for 65 percent of the flying to leave the pilots free to concentrate on other test activities. The autopilot has also flown the Concorde along the ILS landing beams to within 100ft of touchdown. In service, it will make automatic landings.

The success of the autopilot system reflects great credit on EFA, our French partner SFENA and Concorde's French manufacturing partner Aerospatiale. The system was tested so thoroughly before flight that it could be used reliably as soon as the prototypes began flying. Such solid progress is a big technical step forward. No other autopilot system anywhere has achieved these results in this kind of aeroplane.

Athletics next month

Elliott Athletic Club will be competing in the following events during the coming month:

February 6
Tonbridge AC - cross country at Tonbridge

February 13
Veterans AC - cross country at Wimbledon

February 13
Southern boys and youths cross country championship at Parliament Hill, London

February 20
Kent League - cross country at Canterbury

February 27
Club Championship for boys, youths and seniors at Aylesford

Details from Len Murphy, ADD, on internal 361.

FARL's TELEVISION

PEOPLE in FARL are watching TV, but it isn't BBC or ITV. It's the new raster-graphic television they have developed for pilots and navigators.

What FARL designers have done is find a way of making a relatively normal TV screen carry not only pictures, but the kind of symbols and writing used in head-up display.

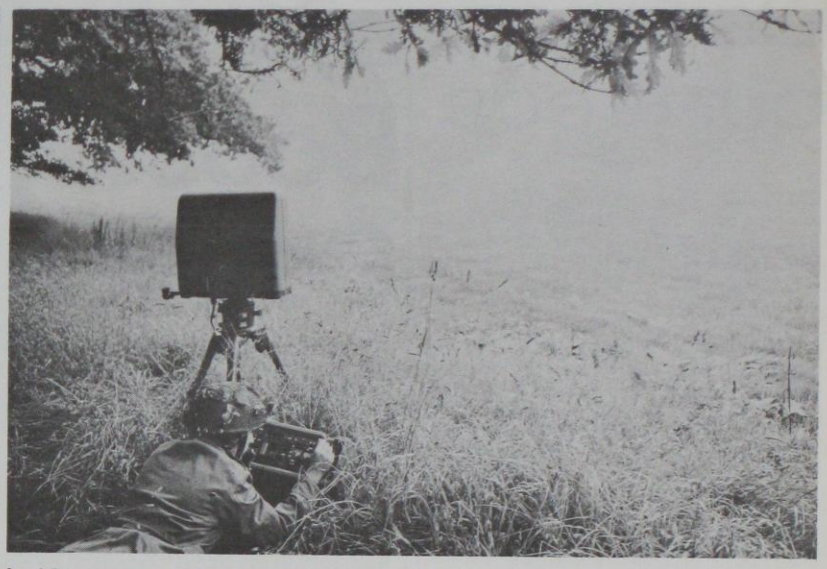
Raster-graphic describes the normal television picture writing method in which a spot traverses the 625 lines one after the other, brightening or darkening to build up the picture as it goes along. FARL make the spot work harder and trace patterns, numbers, lines, shaded and light areas and so on as well as a picture.

The picture, incidentally, could come from a special low-light television camera, mounted in the nose of the aircraft, and able to see clearly even by faint starlight. In this way, a pilot could see in the dark and see his instrument information at the same time, which is what he now does in daylight with a head-up display.

FARL have also made their pilot's television show maps and charts, or patterns of figures and scales so that the same screen can be used for normal flying, for navigation and for taking a close look at the aircraft's many systems. All this can be done on the one screen, right in front of the pilot. They have demonstrated it in colour too.

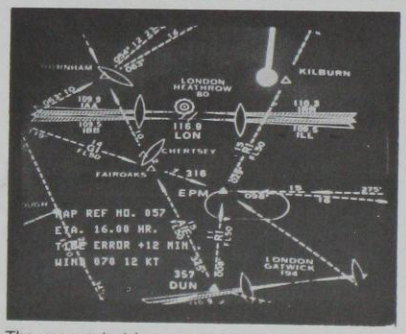
The television head-down display, as it is called, is the latest thing in pilot's instrumentation and will cause considerable interest in the aviation world.

A television view of cloud scenery with instrument symbols superimposed on the new FARL head-down display. The camera is in the nose of the aircraft, which is banking to the left. The horizon line remains parallel with the outside horizon. Compass, speed, height and bank angle scales are "written" over the picture.



A soldier operates the ZB.298 portable radar in the field, searching for moving objects out of sight in the mist. He can identify them by sounds produced from the radar signals. It was for his part in the development of this system that Derrick Staynor received the MBE in the New Year's honours.

ANOTHER HONOUR



The same television screen showing a map of the airways around London. At top right, the "tadpole" shows the aircraft's position and heading. At lower left, navigation and traffic control information is over-printed electronically.

MRCA concluded

For EFA, Panther represents the best project presently available for much of the advanced avionic equipment we have been developing. Many people in EFA are working hard to win orders for this equipment from Panavia, in competition with our best rivals in Britain, Europe and the USA.

Panther's survival as a viable military aircraft depends to a considerable extent on holding the cost to a reasonable level. If cost escalates, the programme will surely be reduced or cancelled. If it does not, Panther will become one of Europe's most defensive weapons.

THE New Year's honours list brought another award to an Elliott man, this time in our sister company Elliott Automation Radar Systems at Borehamwood. Derrick Staynor, chief development engineer in EARS Mobile Radar Engineering Division, was awarded the MBE for his outstanding contributions to the seven-year development programme of the ZB.298 portable battlefield radar.

Mr. Staynor played an important part in ensuring that ZB.298 worked reliably and effectively under battlefield conditions. ZB.298 can be carried by two men, put into operation in minutes and will detect virtually any moving object up to a range of several miles. While special lamps indicate the presence of a moving object and its range, the operator identifies the object by listening to sounds which represent its movement. A man walking, for example, sounds like someone marching through deep gravel. You can tell the difference between walking and running, or between a wheeled and tracked vehicle. And ZB.298 can be roughly handled without being damaged.

EXPORT PROSPECT

ZB.298 is now in quantity production for the British Army, where it is giving the infantry a new set of battlefield "eyes". There are excellent prospects for exports and for civil applications in security and patrol work.

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