Marconi funds dogfight Foxhunte

by Peter Middleton
Marconi Defence Systems will
fly a medium-pulse-rate version
of its Foxhunter pulse-Doppler
air-interception radar within 18
months, to demonstrate the
possibility of fundamentally
enhancing the Tornado ADV's
close-combat capability.
The company-funded pro-
gramme is intended to boost the
long-term market potential of
Foxhunter, which once threat-
ened to become a disaster of
Nimrod AEW proportions. The
radar is now meeting delivery
dates and, in trials, is beating
the "Stage 1" specification for
RAF deliveries beyond April.
The Stage 1 modifications,
developed under a fixed-price
contract with the UK Ministry
of Defence, already include
close-combat improvements
such as visual target-acquisition
modes and much better target-
lock capability. Foxhunter's
dogfight performance will
be further enhanced by
new tracking-system software,
scheduled to be installed in a
new computer as part of the
mid-1991 "Stage 2" upgrade.

Marconi's private-venture Foxhunter development could give Tornado ADVs true dogfight capability

The fundamental problem
will remain, however. Fox-
hunter will still be saddled with
the close-range limitations
inherent in the high pulse-
repetition-frequency (PRF)
signal generation needed to
provide sufficient power for the

primary task of bomber
detection and tracking beyond
visual range.
Just as there was never a
demand for close-combat radar
optimisation in the original
Foxhunter operational require-
ment, there is as yet no official

requirement to optimise the
Tornado F.3's dogfight and
interception capability by adop-
ting a dual-mode radar.
The addition of a medium-
PRF mode would have two
advantages. It would improve
definition at short ranges (less
than 20 miles), particularly
against ground clutter. It would
also increase detection range in
tail-aspect attacks, when the
speed difference between
combattants is low and the
Doppler shift detectable by the
radar is small. The advantage
would be particularly marked at
low level, because the detection
range of a high-PRF radar such
as Foxhunter falls rapidly with
decreasing altitude as the weak
Doppler shift of a tail-chase
target becomes swamped by
ground clutter.
Marconi is also developing
"jet engine modulation"
spectral-analysis techniques.
These enable Foxhunter to
identify targets from the modu-
lation imposed on their radar
returns by the harmonics of the
first- and second-stage compres-
sor blade passing frequencies.

11 million parts for anything that flies.
We know where they are
and who has them, world wide. When you need parts,
Inventory Locator Service finds parts.
Fast. Inexpensively. For details contact ILS.

Inventory Locator Service, Inc.
3965 Mendenhall Road
Memphis, TN 38115
(901)794-4784 (800)233-3414
Fax (901) 794-1760
Telex 882179 (WU)

Intralink Service (Europe) Ltd.
Crawley, West Sussex, UK
(0293)-562011
Fax (0293)-562066

\s

A RYDER SYSTEM C<

Buyers of aerospace equipment, components and systems.
Come to the only U.S. Air & Trade Show certified by the U.S. Department of Commerce.

• Hundred s of displays featuring state-of-the-art technology • International Business Center
• Interpreters • U.S. Departmen t
of Commerc e Facilitators

July 20-23,1989

=m^m

AIR AND TRADE SHOW
at the Dayton International Airport

For complete details, please contact
Don Houk, Trade Show Director __,„„
Dayton Air and Trade Show /5*TEJTJ \
Dayton International Airport
Vandalia, Ohio 45377 USA
Phone (513) 898-5901
Fax (513) 898-5121

For additional information you can also contact your nearest U.S. Embassy or Consulate.

12 FLIGHT INTERNATIONAL, 7 January 1989