A millimetre-wave mast-mounted radar and Hellfire missile seeker will help Apache penetrate the fog of battle

Apache helicopter radar revealed
by Julian Moxo n
in Washington D.C.
Initial development of a
millimetre-wave radar for the
US Army's McDonnell Douglas
AH-64 Apache anti-tank heli-
copter is set to begin in August,
following an Army review of the
programme next month.
A mockup of the airborne
adverse-weather weapon system
(AAWWS) under development
by Martin Marietta and West-
inghouse (Flight, November 5,
1988), was unveiled at this
year's Army Aviation Associa-
tion convention in Atlanta,
Georgia. Th e radar will give the
Apache true fire-and-forget
capability with its Hellfire
missile, and will be suitable for
use with other weapons, includ-
ing a possible version of the
Harm anti-radar missile.

Mast-mounted, and weighing
just 2301b, AAWWS would give
Apache crews many of the
features associated with a
normal radar, freeing them
from some of the existing
infrared sensor's constraints.
AAWWS would be comple-
mentary to the Apache's
TADS/PNVS targeting/night-
vision equipment, which has
greater range, but suffers from
bad-weather limitations. "The
combination increases Apache's
fighting effectiveness more than
tenfold," says Martin Marietta.
The Hellfire missile will be

modified with a new 301b
millimetre-wave seeker head,
its small size made possible by
virtue of emerging gallium arse-
nide technology. In operation,
AAWWS would display a radar
image of potential targets on the
existing Apache cockpit display.
The operator would lock on to
it, for automatic tracking, and
launch a millimetre-wave Hell-
fire missile, boresighted on the
same image.
Both the radar and missile
seeker have undergone exten-
sive testing since the proof-of-
principle programme was
begun in 1985. Structural test-
ing of a full-scale AAWWS
mockup began last year, and
flight tests are due to begin at
the end of this month. User tests
of the radar by the Army will
begin later this year.

The Army plans to equip
about one-third of its planned
950-aircraft Apache force with
AAWWS. It has requested $259
million in 1990-1991 to begin
engineering development. The
Army's Systems Acquisition
Review Council will consider
the programme in May.
Approval would lead to a
14-month initial development
programme. Th e Army says
that operational deployment
could begin as early as 1992 as a
central part of the Apache
multi-stage improvement

programme.

RAAF favours

phased-array AEW

The Royal Australian Air Force
(RAAF) is favouring a phased-
array radar as the main element
of its planned airborne early
warning (AEW) system. Israel's
Phalcon and Sweden's Erieye
systems are the only radars of
this type contending for the
$400 million contract.

TheAustralianrequestforpro-
posals was expected this month,
but now seems likely to be de-
layed for at least a month. The
RAAF has allocated $400 mil-
lion for the procurement of three
or four AEW aircraft. These air-
craft will supplement the Aus-
tralian Jindalee over-the-hori-
zon backscatter (OTH-B) radar
currently under development.
Resolution of the OTH-B
radar will require more accurate
target recognition by a system
with higher , sensitivity. The
intention is to use the OTH-B
radar for first threat detection,
and then AEW for mid- and
close-range tracking.
The Australians are planning
to build three OTH-B radar
stations to cover the country's
northern and western

approaches.

Twelve companies responded
to an earlier RAAF request for
information in AEW systems.
These included Grumman,
Lockheed, and Boeing.
Air Force experts have been
briefed on the Phalcon system
developed by Elta, a subsidiary
of Israel Aircraft Industries.
This solid-state L-band radar
uses conformal phased-array
antennas mounted either side of
the aircraft, on the nose and
under the tail. Each array
consists of several hundred
antenna elements, and six
arrays cover 360°.

Elta president Dr Nino Levy
says the Israeli company is now
seeking a US partner for the
Australian competition. "Such a
partner will facilitate the integr-
ation of a flying prototype and
the final development," he says.
The other phased-array radar
expected to compete for the
RAAF contract is the Ericsson
PS-890 electronically scanned
E/F-band AEW radar under
development for the Swedish
Air Force. A prototype system is
now under evaluation in a
Fairchild Metro III.

Australian Harpoon simulated
A Royal Australian Air Force F-lllC takes off equipped with McDonnell Douglas Harpoon anti-ship missiles. The Australian Defence Science and Technology Organisation has developed a Harpoon simulator for RAAF F-lllCsand F-18s. It simulates all aircrew actions and cockpit displays as if an actual missile were fired. The unit is also intended for export to other operators of the McDonnell Douglas F-18.

NEWS IN BRIEF

• GEC joins ATA
GEC Avionics is to supply
sidestick transducers for the
McDonnell Douglas/Genera'
Dynamics A-12 Advancec
Tactical Aircraft and Lock-
heed/Boeing/General Dy-
namics YF-22 Advanced

Tactical Fighter prototype.

D India accepts radar
India's first indigenously
developed air-defence radar
has been delivered by Bharat
Electronics. The 50km-range
vehicle-mounted Indra radar
will be used both by the Indian
Air Force and Army,

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