EXOTIC ?

NOT OUR STARAN IV.®

It's the world's first associative processor. It's the world's fastest computer, and it's leading a new computer revolution.

But exotic it's not.

It features simple construction and off-the-shelf components. It's the simplest of all processors to program. And it's fully compatible with existing computer systems.

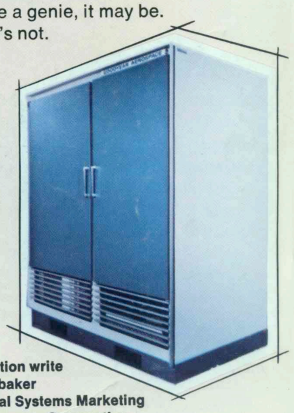
We introduced the *STARAN IV-X* associative processor in June 1970. It has a plated wire associative array, and already is at work for the benefit of man, in a "safer flying" program at the Federal Aviation Administration control tower at Knoxville, Tenn.

Now we're announcing *STARAN IV-Y*, which features solid-state associative arrays. Each array has 256 processing elements. As many as 32 modular arrays can be grouped to provide a capability of 500 million operations per second. No other computer can match this.

STARAN IV-Y production is under way and deliveries will start next spring. It can break data jams in defense and civilian applications —radar surveillance and control, electronic warfare, ballistic missile defense, geodetic survey and exploration, transportation systems and data management.

Exciting, like a genie, it may be.

But exotic it's not.



For more information write
Mr. Wayne Brubaker
Manager, Digital Systems Marketing
Goodyear Aerospace Corporation
Akron, Ohio 44315
Or phone
(216) 794-3631

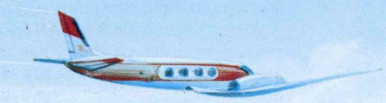
GOODYEAR AEROSPACE

When we say it, we mean it.

Goodyear Aerospace Corporation, Akron, Ohio 44315

For computerized safety

Plane Tag In The Sky



If it weren't for their FAA designations, the two jet aircraft might appear to be playing an airborne game of tag over east Tennessee.

The aircraft overtook each other, criss-crossed flight paths and performed other maneuvers — all in a preplanned experiment to make flying safer.

Down below, air traffic controllers and other FAA officials carefully followed the maneuvers on their radar scopes. Special computers, being added to the FAA control tower at McGhee Tyson Airport, Knoxville, also followed the planes.

The "game" really is an exercise in precision aircraft control. It is part of a program put together by the Federal Aviation Administration to research use of computers to improve flight safety. The experiments are to demonstrate how the computers can warn air controllers, and possibly pilots, of collision danger and advise them of specific evasive maneuvers.

The FAA experiment at Knoxville uses a Goodyear Aerospace STARAN IV® computer, interfaced with a Univac 1230 test facility computer.

Air traffic controllers are still responsible for quick and safe traffic. Goodyear's STARAN IV, however, can take over the arduous chore of conflict prediction and resolution, reducing clerical loads. This provides the controller the time needed to perform the critical management functions of air traffic control.

STARAN IV takes the position, altitude, heading and velocity of all aircraft in the terminal area and projects the flight paths ahead. Each aircraft flight path is compared with the projected position of all other aircraft in the area and all combinations checked for conflict.

When potential collisions are detected, STARAN IV can single out the aircraft in conflict. Their identifications are called out on the radar screen — isolated from the other traffic. And STARAN IV can tell the controllers what evasive action to take. (In future systems, this same information may be relayed directly to the pilot.)

This monstrous computation job is easily accomplished because STARAN IV, the world's fastest computer, can perform hundreds of millions of mathematical operations per second.

Air traffic controllers will continue to manage the air traffic as the machines assist them in their endless task of quickly and safely moving the multitude of planes around the nation's airways and airports.

The Knoxville experiments are to continue through late 1971, to demonstrate the capability of STARAN IV to aid the controller in safely and efficiently controlling the nation's air traffic, which is expected to increase in the future.

In another FAA program, automated radar terminal systems are being installed in numerous high-density airports around the country by the Univac Division of Sperry Rand, to provide computerized identification and tracking information.

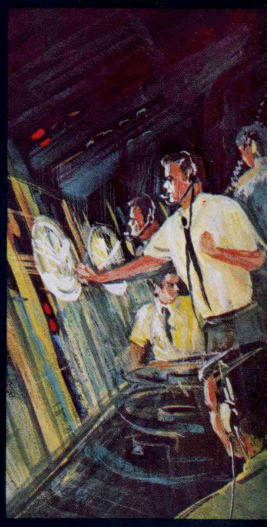
Meanwhile, advanced STARAN IV models are being proposed as a solution to numerous other extremely complex problems — including several for the Army and Air Force and even for use by weather forecasters.

Mark Twain said everybody talks about the weather but nobody does anything about it. But STARAN IV just might — and at the same time help improve air safety.

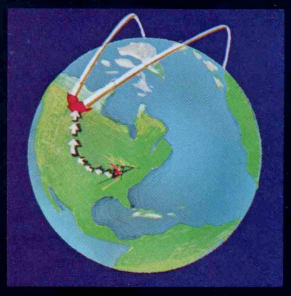
STARAN IV

SOLVING PROBLEMS WITH SPEED TO SPARE

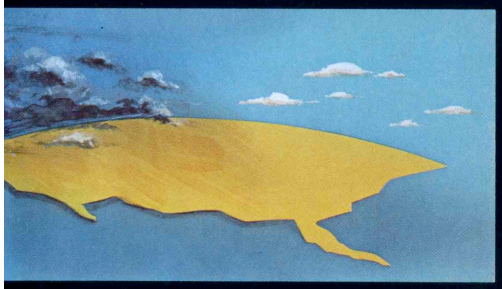
Air traffic control.



Ballistic missile defense.

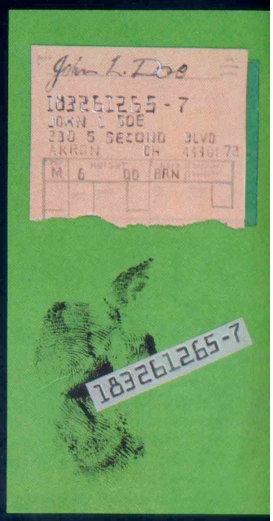


Weather forecasting.



Airborne command control.

Data management.



Pattern recognition.