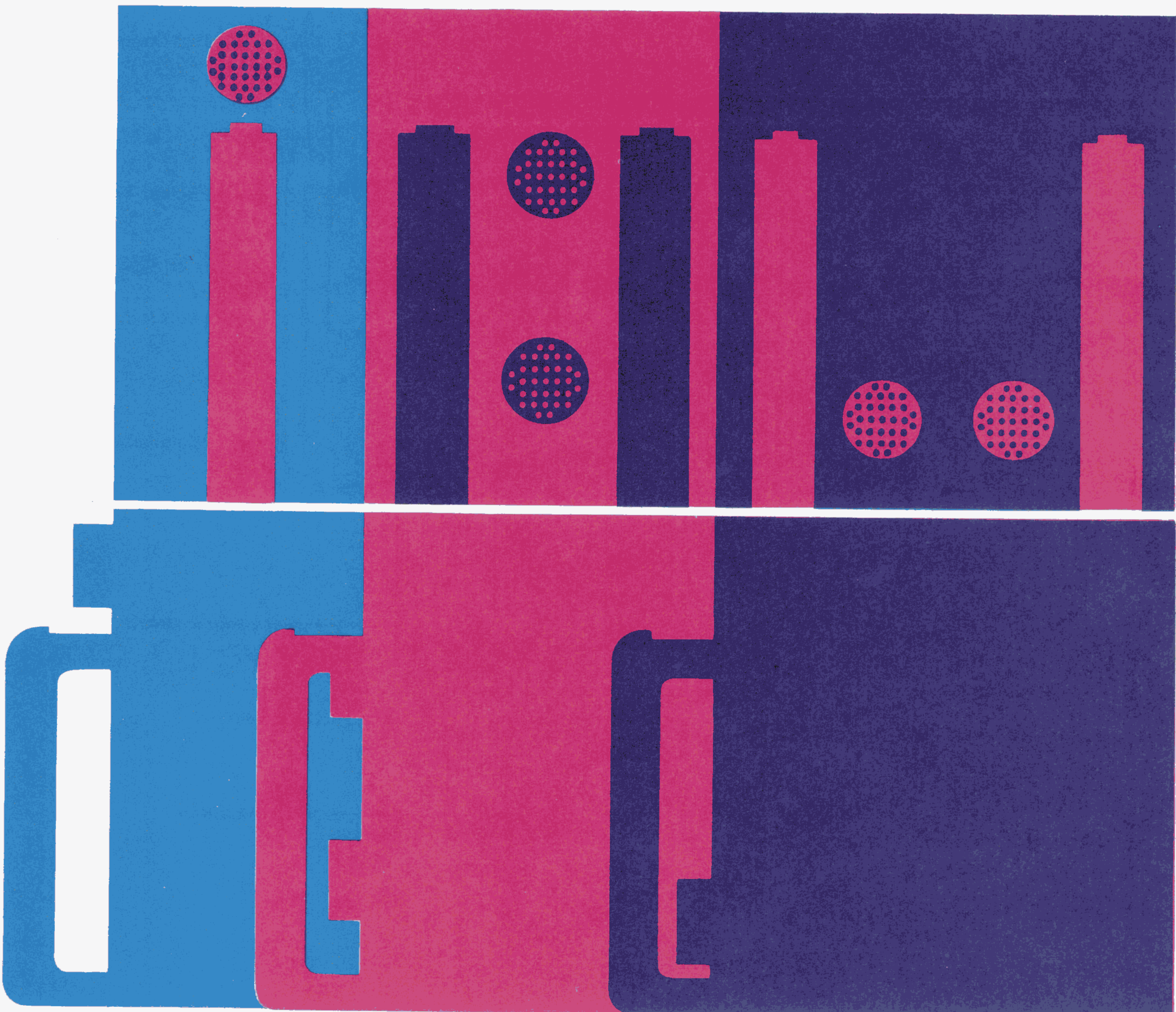
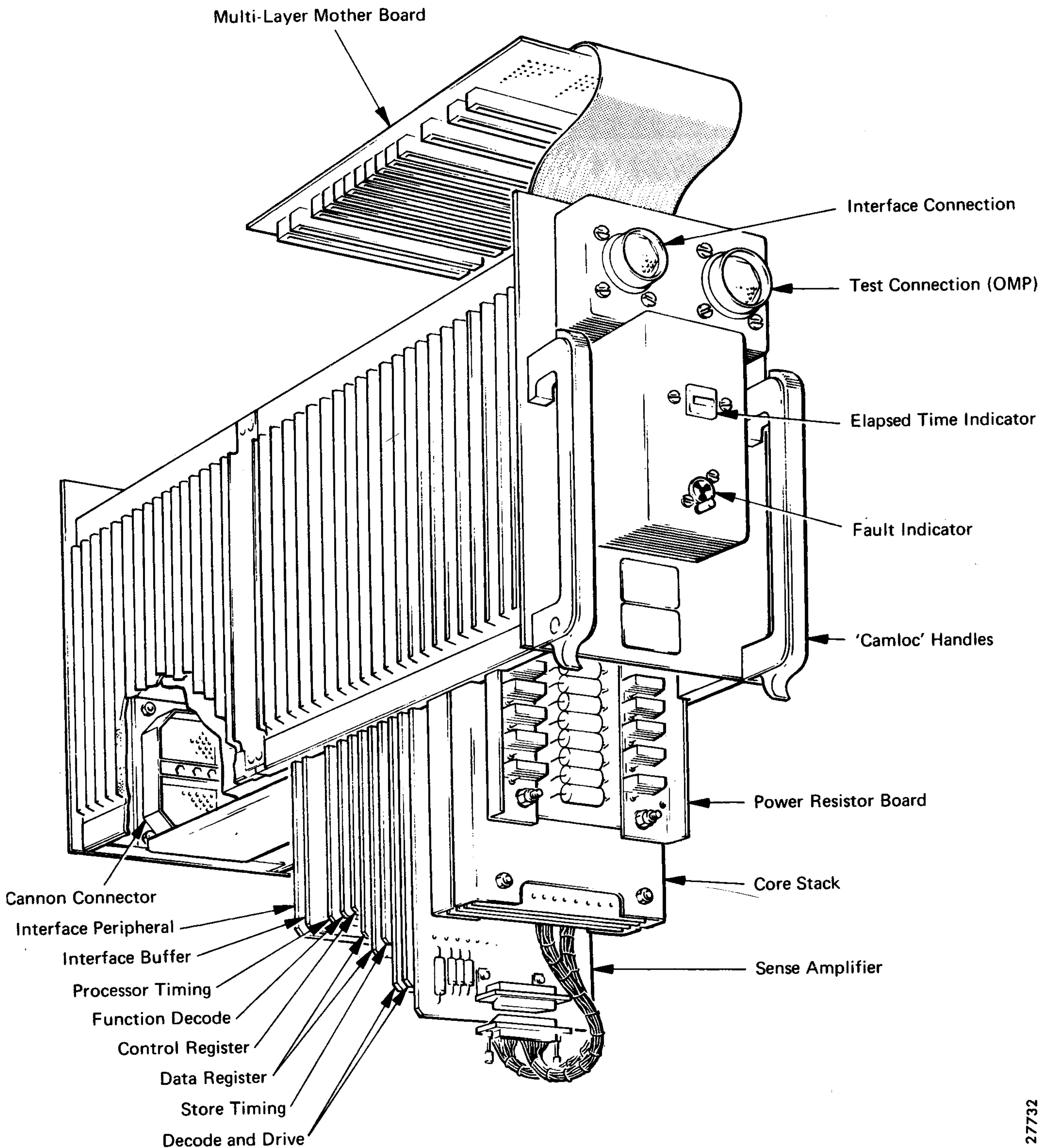


MARCONI-ELLIOTT
AVIONICS

12/12 Airborne Computers



General View of Computer



Brief Description

The 12/12P is the basic machine for a range of task oriented digital airborne computers. The modular structure used enables a large number of variants to be configured from this basic machine by the addition or subtraction of printed circuit cards

This modular approach permits great flexibility to optimise to a particular computing task with minimum development.

The examples below show three computers, each one has been optimised to a specific computing requirement.

This flexibility can be taken further by extending the data word length to 24 bits. The range is completed by the ability to configure the computers to operate in the serial mode, whilst retaining the same basic order structure and design principles used in the basic 12/12P.

Various memory configurations are available depending on the application, 4K of fully variable core memory is normally used for the development phase and later replaced by ROM or RAM Semiconductor memories in production units.

Typical Configurations

	59-021-01 General Purpose Airborne	59-016-02 Fire Control	59-018-02 Compass Stabilisation
PROCESSOR MODULE			
Data Register – 6743–00232	2	2	2
Processor Timing – 6743–00233	1	1	1
Function Decode – 6743 –00234	1	1	1
Control Registers – 6743–00235	1	1	1
MEMORY MODULE (4K CORE MEMORY)			
Decode and drive – 6743–00229	2	2	–
Memory Timing – 6743–00230	1	1	–
Sense Amplifier – 6743–00228	1	1	–
Power Resistor Board – 6743–00040	1	1	–
Core Stack Assy – 7727–00007	1	1	–
MEMORY MODULE (4K SEMICONDUCTOR MEMORY)			
Program memory – 63–18206	–	–	2
Memory Timing – 63–18207	–	–	1
Data memory – 63–18208	–	–	1
INTERFACE MODULE			
Interface peripheral– 6743–00237	1	1	1
Interface Buffer – 6743–00236	1	–	–
POWER SUPPLY MODULE			
115v Single phase 400Hz Power supply module	1	–	–
APPLICATION MODULES			
System Alignment Constant (1)	–	–	1
System Alignment Constant (2)	–	–	1
Special Program sequence monitor	–	–	1
CHASSIS			
½ ATR Long	1	–	–
½ ATR Short	–	–	–
Special to purpose	–	1	1

Physical and Functional Characteristics

Basic Times

Logic cycle = 600ns.
 Store cycle (variable store) = 2.0 μ s
 Clock Pulse = 100ns

Basic functions with nominal times for parallel mode

FUNCTION	NOMINAL TIME, μ s
Modify	4.4
Add	4.4
Negate and Add	5.6
Store E	5.0
Read	4.4
Write	5.0
Multiply	11.6
Divide	12.2

Other functions include:—

Collate	Move EA
Jump Zero	Read DS
Jump	Load A
Jump Negative	Shift Right
Count	Move AE
Exit	Move AD
Enter	Load D
Shift Left	Read Word Gen. Prog. Terminate

Weight	12 to 25 lbs (5.44 to 11.34 Kg)
Volume	364 to 818 cu ins (0.0059 to 0.0134 cu m)
Power Consumption	80 to 120 watts

The above parameters are approximate and depend on the configuration.

Voltage Requirements	12/12P Computer operates on the following voltage rails:— +5V, +12V, -6V, +28V, +16V.
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Further Information can be supplied by the Sales Manager at the following address:

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AIRBORNE COMPUTING DIVISION

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