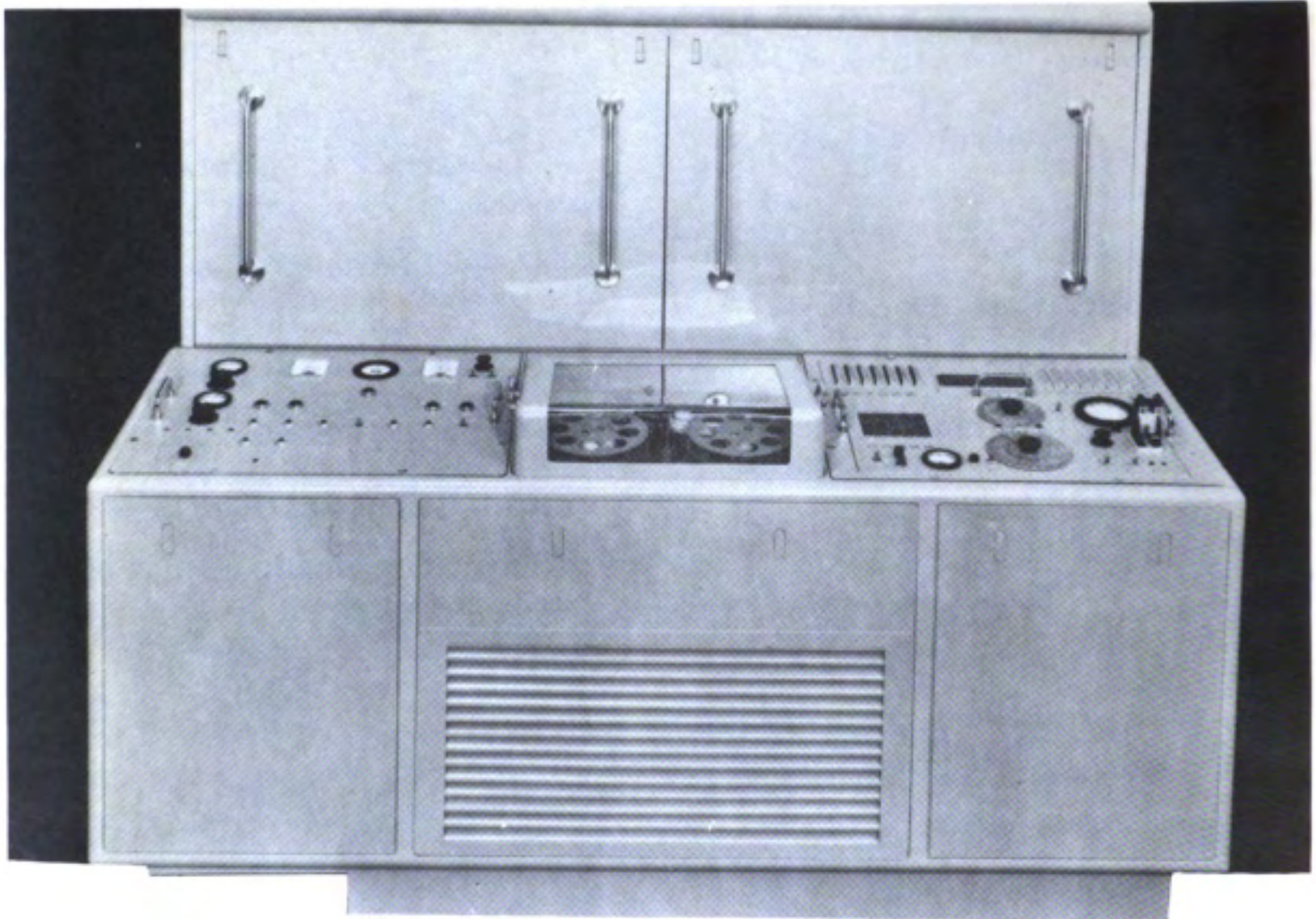


QUAC

Quadratic Arc Computer

MANUFACTURER

Northrop Aircraft, Inc.



Picture by Northrop Aircraft, Inc.

APPLICATIONS

Guidance application, ground support. System is a digital differential analyzer used for second order interpolation between predetermined ordinates.

NUMERICAL SYSTEM

Internal number system Binary
Binary digits per word 18

ARITHMETIC UNIT

Construction 10 vacuum tubes
Rapid access word registers
Basic pulse repetition rate 69.12 Kc
Arithmetic mode Serial
Timing Synchronous
Operation Sequential
QUAC adds serially at clock frequency of 69.12 Kilocycles/sec.

STORAGE

Media	Words	Digits
Magnetic Drum	48	864

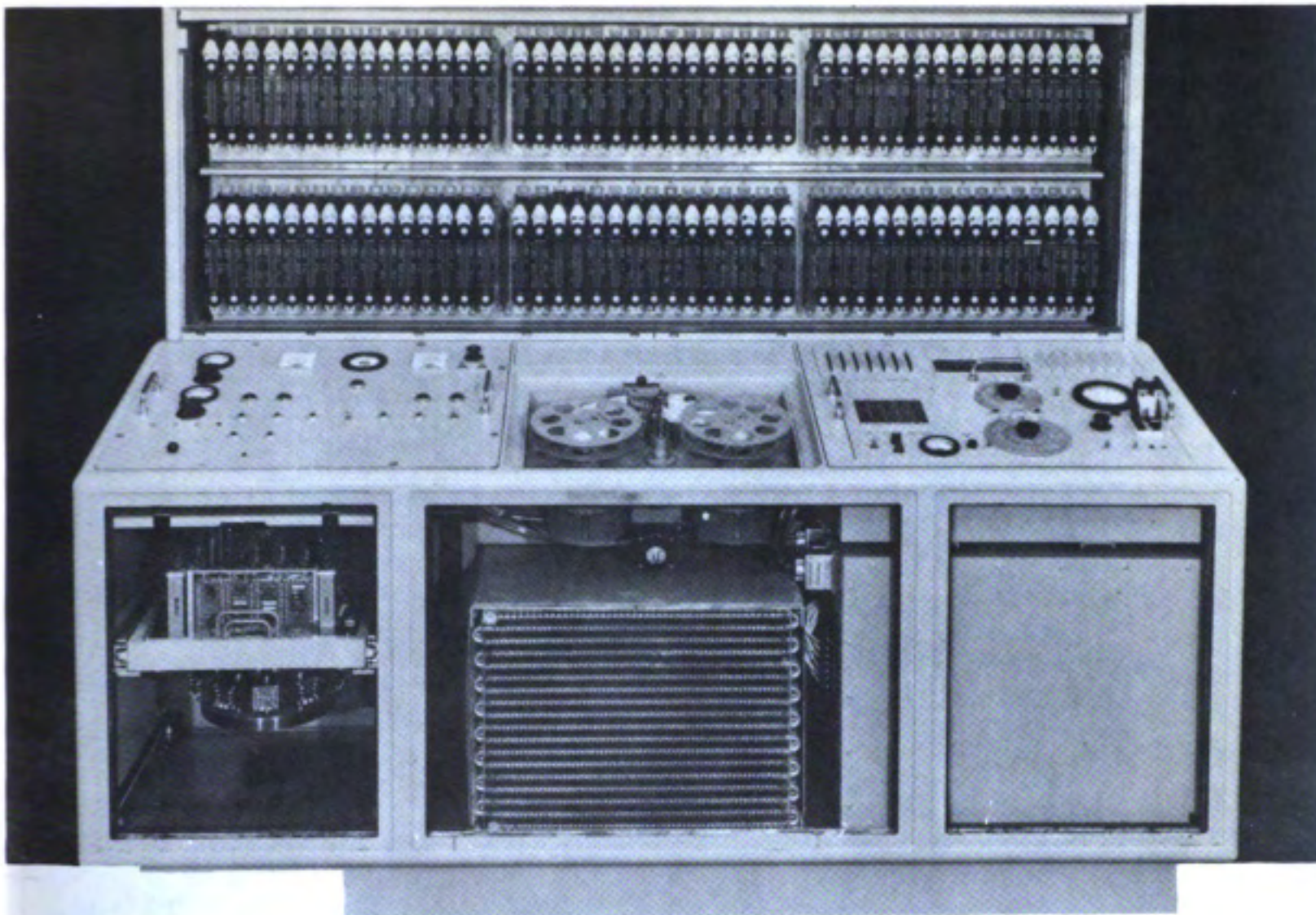
Magnetic drum is of the disc type.

INPUT

Brush read, serial input from a hexadecimally coded paper tape.

OUTPUT

Pulses, amplified through phantastron-driver units to a 28 channel magnetic tape recorder.



Picture by Northrop Aircraft, Inc.

CIRCUIT ELEMENTS ENTIRE SYSTEM

Tubes	290
Tube types	6
Crystal diodes	880
Capacitors	422
Resistors	2,105
Separate cabinets	1

Tube types used include 5670, 5687, 5080, 5896, 5725 and the 6005.

CHECKING FEATURES

Optional
Built in tester and digital pulse counters.

POWER, SPACE AND WEIGHT

Power, computer	2.45 Kw	4.65 KVA	0.527 PF
Space, computer	71.5 cu. ft., 16.3 sq. ft.		
Weight, computer	2,797 lbs		

Computer and air conditioner (blower) integrated in one unit. Power for blowers is included in above figures. Computer measures 73 x 61 x 30 inches.

PRODUCTION RECORD

Produced	2
Operating	2

Produced for a United States Air Force application by Northrop Aircraft, Inc., Northrop Field, Hawthorne, California

PERSONNEL REQUIREMENTS

Two technicians are required for maintenance, repair and operation. No engineers are required.

RELIABILITY AND OPERATING EXPERIENCE

Average error-free running period 100 hours
Figures based on period 9 August 1954 to 9 August 1955. (First Prototype)

Average error-free running period is improved for machines subsequent to first prototype.