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preparing for the *installation* of your **model G-15** general purpose computer
and accessories

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DIVISION OF BENDIX AVIATION CORPORATION

PREPARING FOR THE INSTALLATION
OF THE
BENDIX G-15 COMPUTER
AND ACCESSORIES

March 1959



you will want to get ready . . .

When your G-15 Computer arrives, you will want the installation to proceed efficiently. Previous preparation will facilitate unloading of the computer and putting it in operation. This booklet indicates necessary provisions for receiving and unpacking, power requirements, heat dissipation and supplemental equipment.

receiving and unpacking

The computer and the heavier accessories are shipped bolted to pallets and covered by dustproof, pliofilm bags. These units should not be opened until the arrival of the Bendix Customer Service Engineer. He will be scheduled to arrive at the same time as the computer, and will take care of the unpacking details. He will need assistance in unloading the equipment from the pallets.

A fork lift of sufficient capacity should be available when the computer is delivered. Bendix Computer Division will furnish the date of arrival, allowing time to make an arrangement for a fork lift.

dimensions and weights

Unit	Dimensions (inches) H. W. D.	Weight (lbs.) Prepared for Shipment
G-15	61 x 27 x 32	1050
AN-1	28 1/2 x 60 x 31 (desk unit)	500
AN-2	28 1/2 x 60 x 31 (desk unit)	500
CA-1	18 x 26 x 4 (Replaces back panel of IBM-026)	65
CA-2	60 x 29 x 22	800
DA-1	60 x 24 x 22	350
HSPR-5 or 7 (Motorized Reader-Punch)	12 x 15 x 12	75
MTA-2	60 x 24 x 22	450
PA-2	(Desk top mounting)	30
PR-2	22 x 24 x 19	150
IBM-026 (not supplied by Bendix Computer)	36 x 31 x 28 1/4	consult manufacturer

Since the maximum floor loading of G-15 equipment is only 160 pounds per square foot, secondary flooring is not required in buildings of medium-duty construction.

The computer and larger accessories are mounted on casters and are easily moved after they are removed from their pallets. (Care should be taken to prevent jarring the equipment.) It is not necessary to remove door jambs or wall sections since the computer and its accessories may be moved through any 30-inch door.

heat dissipation

Sufficient ventilation or air conditioning should be provided to keep ambient room temperature below 80° F and above 50° F. Special air conditioning is usually not required.

The following table indicates the heat dissipation of each piece of equipment.

Equipment	BTU/hour
G-15	14,300
AN-1	2500
AN-2	1150
CA-1	250
CA-2	8500
DA-1	4450
MTA-2	2200
PA-2	290
PR-2	500
IBM-026	1050

power requirements

POWER

Unit	Volts	Amperes	Phase	No. of Wires
G-15	115 ± 10%	38.0*	1	3
AN-1	115 ± 10%	10.2**	1	3
AN-2	All power supplied from G-15			
CA-1	All power supplied from G-15 (Operates with one or two IBM-026 reader-punches)			
CA-2	115 ± 10%	22***	1	3
DA-1	115 ± 10%	11.8	1	3
HSPR-5 or 7	All power supplied from AN-1			
MTA-2	115 ± 10%	6.0	1	3
PA-2	All power supplied from G-15 and DA-1			
PR-2	All power supplied from G-15			
35-4 (Flexowriter)	All power supplied from AN-1			
IBM-026	115 ± 10%	2.9	1	3

*A 50 ampere line is recommended.

**Includes 2.0 amps for HSPR-5 or 7 and 2.9 amps for 35-4.

***A 30 ampere line is recommended.

All equipment requiring external power operates from a 110 volt, single-phase, three-wire system. The third wire is an equipment ground. A 220 volt, three-wire, single-phase system will not be acceptable. Accessories requiring external power should be connected to a branch circuit of sufficient amperage.

POWER CONNECTIONS

All power connections should be wired in conformance with the National Electrical Code, which states:

- Green Wire - ground - Connect to large brass terminal
- White Wire - neutral lead - Connect to small brass terminal
- Black Wire - hot lead - Connect to copper terminal

POWER CONNECTORS

Unit	Male Connector on equipment cable	Matching female cable connector	Wall mounting receptacle	Box
G-15	Cornish 500		7974	OB4S
AN-1	7573	7559	7582 single or 7580 duplex	FS or FD Std. Dup.
CA-2	9339-16		9344	OB4S
DA-1	7573	7313G	7582 single or 7580 duplex	FS or FD Std. Dup.
MTA-2	7573	7559	7582 single or 7580 duplex	FS or FD Std. Dup.

All connectors and receptacles except the G-15 connector are manufactured by Harvey Hubbell, Inc., Bridgeport, Connecticut, and are available from Hubbell Offices in principal cities, and from most electrical supply houses.

CABLE LENGTHS

The lengths of all cables supplied with G-15 equipment are listed below:

Function	Cable Length (in feet)
G-15 Power	15
G-15 to Typewriter	14
AN-1 to G-15	25
AN-1 Power	15
CA-1 to G-15	25
CA-1 to CA-1 Auxiliary	15
CA-2 to G-15	10
CA-2 Power	15
CA-2 to IBM Equipment	*
DA-1 to G-15	10
DA-1 Power	15
HSPR-5 or 7 to AN-1	10
MTA-2 to G-15	10
MTA-2 Power	15
MTA-2 to Additional MTA-2	3
PA-2 to DA-1	15
PR-2 to G-15	15
35-4 (Flexowriter) to AN-1	15
IBM-026 Power	8

*IBM summary punches normally have a 6-foot cable; up to 50 feet of cable may be obtained from IBM by special order. A connection kit is available from Bendix Computer for the IBM-402.

LINE VOLTAGE

G-15 equipment will operate on any constant line voltage between 105 and 125 volts. For operation from any other line voltage, an auto-transformer is recommended.

VOLTAGE REGULATION

Where line voltage regulation is poor, improved computer reliability can be obtained through the use of a voltage regulator. Automatic, motor-driven, variable transformers may be used where variations are less than $\pm 15\%$ and where variations greater than 3% occur at a rate less than 10 volts per second.

TRANSIENT ELIMINATION

Where more rapid voltage variations, such as the fast transients produced by spot welders or the starting of large motors may occur, it is recommended that a motor-alternator set be used. The desirable type will depend on local conditions.

FREQUENCY CONVERSION

For operation on other than 60 cycle lines, motor-alternator sets are recommended.

PHASE CHANGING

G-15 equipment is designed for single-phase operation. This power can normally be supplied from a one, two, or three-phase line. Three-phase power is required for most motor-alternator sets, but unless such a device is required for transient elimination or frequency conversion, single-phase power is the only requirement.

NOTE: There are many makes and types of auto-transformers, variable transformers, constant-voltage transformers and motor-alternator sets. Bendix Computer will recommend specific models where needed. Consultation is particularly recommended on equipment for transient elimination. When inquiring, list all equipment to be operated from the particular line, and the exact conditions encountered.

supplemental equipment

The following equipment will accompany the computer:

Spares of each type of plug-in
10 tape magazines

Paper tape (11/16" opaque teletype tape) may be purchased from Bendix Computer Division.

The equipment and operating supplies described below are used with G-15 equipment, but will not be furnished by Bendix Computer:

35-4 Flexowriter Electric Typewriter and Paper Tape Reader-Punch

The Flexowriter is recommended for independent preparation and duplication of G-15 five-level paper tapes, and printing from output tapes, where it is desired to free the computer for maximum computing time. The 35-4 is also recommended for use with Accessory AN-1.

Flexowriters may be obtained from the Friden Systems Division, Friden Calculating Machine Co., Inc., 1 Leighton Ave., Rochester, N. Y., with offices in principal cities. When ordering, ask for "Flexowriter Model 35-4, as specified by the Bendix Computer Division."

Desk for typewriter and storage of supplies

Art Metal Construction Co., Model 1855 or
Security Steel, Model MCM-60

Tektronix Model 310 or Model 515 Oscilloscope,
or equivalent

Miscellaneous hand tools such as pliers, screw
drivers, soldering irons, etc.

NOTE: The user will not require the above two
items when equipment is leased or main-
tained by Bendix Computer.

Magnetic tape

Description: Minnesota Mining 159-A
(industrial type), 1/2" wide,
3600 ft. roll

Source: Minnesota Mining and Mfg. Co.

Magnetic tape bulk eraser

Description: Model HD-11

Source: Microtron Company, Inc.
145 East Mineola Ave.
Valley Stream, New York

Magnetic tape eraser adapter hub

Description: For Model HD-11 (10 1/2" reel)

Source: Same as above.

additional information

It is recommended that the need for power equipment, supplementary material and handling equipment be considered as early as possible, so that the installation may be completed without delay when the computer arrives. If additional information is needed, contact the Customer Engineering Department of Bendix Computer Division, 5630 Arbor Vitae Street, Los Angeles 45, California.

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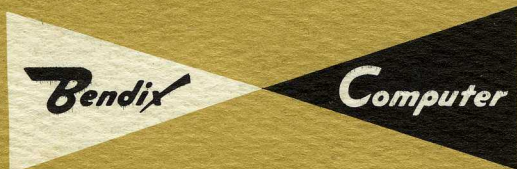
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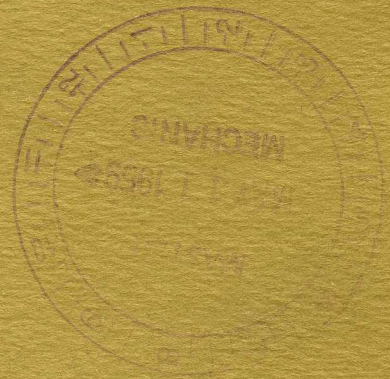
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