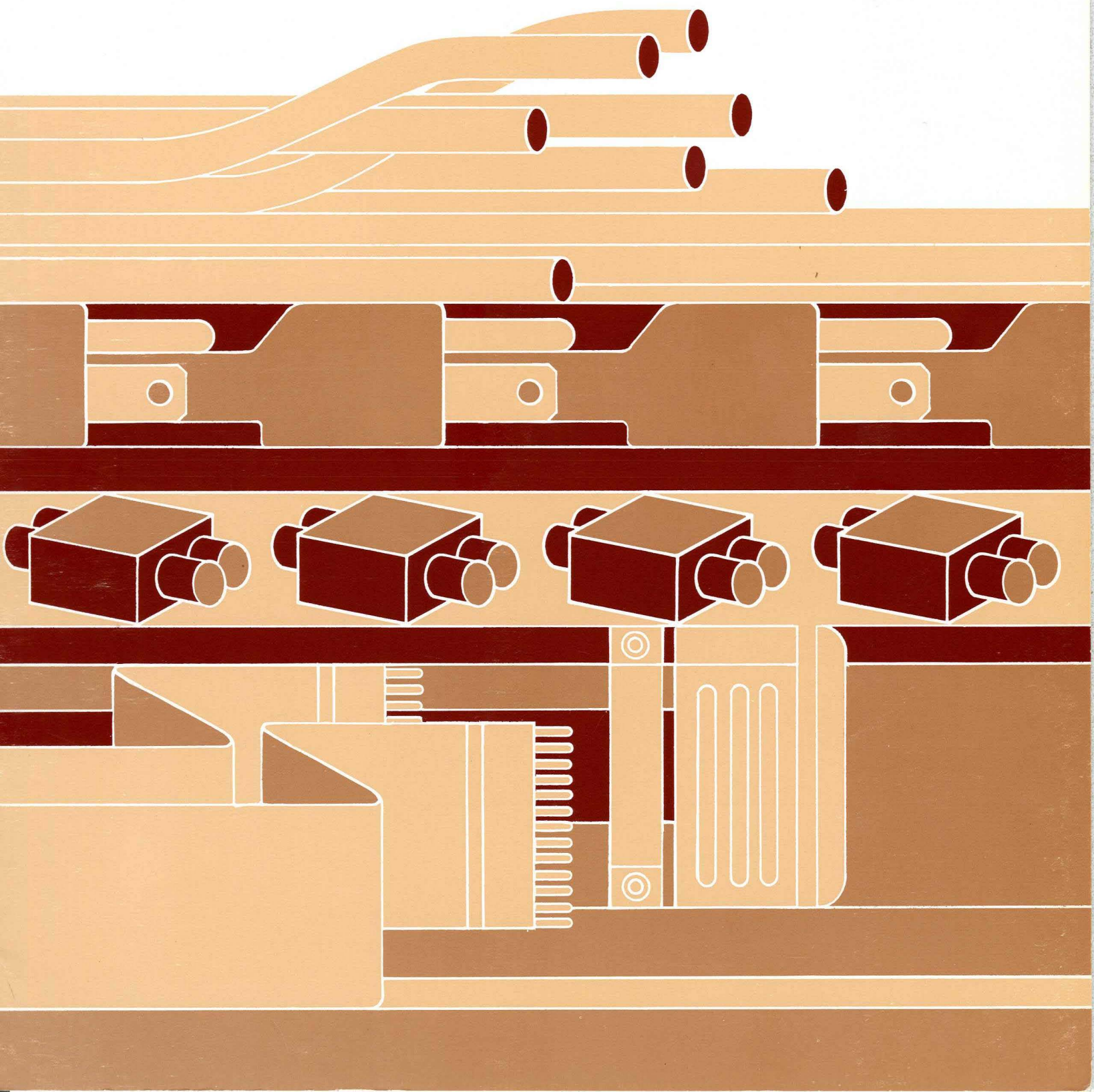
Systems Catalog

DATAPOINT CORPORATION

The leader in dispersed data processing™



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Document No. 60471

Introduction

For the systems planner, the executive, or the small businessman alike, the problem of selecting data processing hardware and software can lead to many difficult questions. What level of power do I choose? Will this system be flexible? Will it serve my needs three years from now as well as it does today?

In response to these questions, Datapoint offers a family of compatible data processing systems, engineered to be as versatile in the future as they are today.

As you read through this catalog, notice that the fundamental difference between systems lies in the size, power, and number of their processors and disks. From the 1150 to the 4650 to the largest ARC system, systems are configured using common peripherals.

As an example, the 4530 system can easily be upgraded to a 4630 simply by exchanging the 5500 processor for a 6600 -- the peripherals can remain the same. In the majority of cases, the same software can still be used on the larger systems, protecting your programming investments.

This is of great importance to the computer planner, for it offers a simple solution to the complex problem of how to grow from small to large without a complete redesign.

And as a business's demands for data processing increase beyond the capacity of conventional, stand-alone computers, Datapoint's exclusive Attached Resource Computer provides a path for nearly unlimited growth through its modular architecture. Using most of the same processors and peripherals shown in the first part of this catalog, a company can start with a moderate amount of computer power and grow it into a large-scale data processing facility that rivals the throughput of much larger machines -- at a fraction of their cost.

The second part of this catalog describes the ARC system symbolically, demonstrating how its inherently different architecture can mean unique solutions to the questions raised above.

So keep Datapoint's family approach in mind when selecting your business's next system. We think you'll agree that when it comes to solving the rapidly-changing problems of business data processing, Datapoint dispersed systems are the answer.

Legend

The systems shown in this catalog are represented schematically. In an effort to make this information as clear as possible, the same symbols have been used throughout. These symbols are shown below, together with a description of the different models of each device which each symbol can represent.

Notice that each system is shown in three differently colored columns. The first (and lightest) column indicates the system's processor and shows its user memory size. The second column contains any devices that are included with the system package (disk storage, for example); the third column displays all of the optional peripherals that the user may add on to the basic system.

In the latter portion of this catalog, ARC systems are depicted in much the same way. However, a fourth column is added to represent interprocessor communications. This is complemented by a memory "map" of each ARC system on the facing page, to provide both symbolic and realistic descriptions of each system.

This catalog is current as of the date of publication. However, technical details relating to systems configurations, designations, and components are subject to change. Contact your local Datapoint sales representative for the latest in detailed information about Datapoint systems.

Processors

Datapoint 1150: 24K user memory. Can function as ARC applications processor.*

Datapoint 1170: 48K user memory. Supports up to 4 DATASHARE® terminals. Can function as ARC applications processor.*

Datapoint 1500: 32K and 60K user memory.

Datapoint 1800: 60K user memory. Supports up to 4 DATASHARE terminals. Can function as ARC applications processor.*

Datapoint 5500: 48K user memory. Supports up to 16 DATASHARE terminals. Can function as ARC applications processor.

Datapoint 6600: 120K user memory. Supports up to 24 DATASHARE terminals. Can function as ARC applications or file processor.

* Diskettes are not supported by ARC systems but can be used for file transfer to and from ARC system disks.

Terminals

3601 Datastation: standard typewriter keyboard, numeric pad. 24-line by 80-column screen. For use with DATASHARE systems.

3608 Datastation: same as 3601 except for uppercase alphabetic and keypunch-type numeric cluster.

Cassette Tapes

Dual cassette drives featured on some processors. 0.12 megabyte capacity per side. 7.5 inch per second speed, completely processor-controlled.

Magnetic Tapes

10.5 inch reel:
7-track, 556/800 bpi density (Model 9558);
9-track, 800 bpi density (Model 9556);
1600 bpi density (Model 9584).

Disks

0.25 megabyte diskette (available with 2, 3 or 4 drives). Models 9382, 9383, 9384.

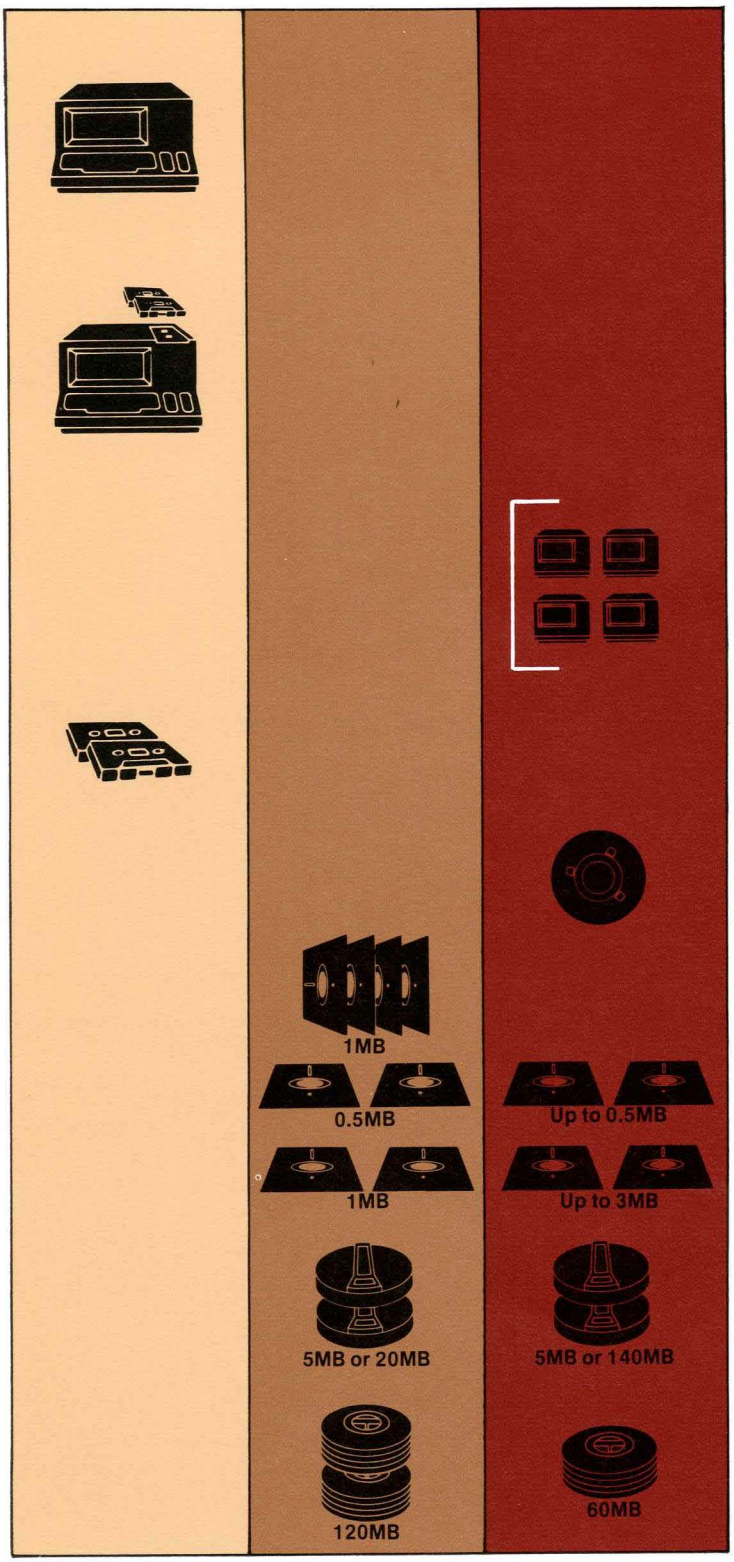
0.5 megabyte diskette module (available in two-drive units and extensions for a total of 1.0 megabytes). For use with Datapoint 1500. Model 1543.

1.0 megabyte double-density diskette module (available in two-drive units and extensions for a total of 4 megabytes). For use with Datapoint 1800. Model 1842.

5 megabyte cartridge disk (2.5 megabyte fixed disk, 2.5 megabyte removable disk). 5 megabyte extensions available, up to 10 megabytes. Models 9367, 9368.

20 megabyte cartridge disk (10 megabyte fixed disk, 10 megabyte removable disk). 20 or 40 megabyte extensions available, up to 160 megabytes. Models 9374, 9375, 9376.

120 megabyte storage module system (two 60 megabyte drives). 60 megabyte extension available for a total of 180 megabytes. Models 9390, 9391.



Printers

System printers:

30 character-per-second servo printer, typewriter quality (Models 9250/9251).

160 character-per-second matrix printer (Models 9621/9622).

60/120 line-per-minute, 120-column belt printer (Model 9291/9294).

240/340 line-per-minute, 132-column belt printer (Models 9212/9213/9214).

240/340 line-per-minute, 132-column Belt Printer for use with Datapoint 1500 (Model 9297).

300 line-per-minute printer (Models 9280/9281).

600 line-per-minute line printer (Models 9260/9261).

900 line-per-minute line printer (Models 9265/9266).

Terminal printers (for use with DATASHARE terminals):

60 line-per-minute, 120-column belt printer with serial interface (Model 9292).

160 character-per-second matrix printer with serial interface (Model 9621).

Auxiliary Power Supply

For use when the number of communications interfaces or modems on a single I/O Bus exceeds two. On 1800 and 3800 processors, required for use of any external communications interface except model 9481. Required on any 24-port DATASHARE system (Model 9022). Supports up to four additional communications interfaces and modems.

Communications Interfaces and Modems

Multiport communications interface:

Accommodates up to eight serial asynchronous ports (up to 9600 baud). For use with DATASHARE terminals (Model 9462).

Communications interfaces:

Asynchronous, 110-4800 baud (Model 9400).
Synchronous, 0-4800 baud (Model 9404/9405).
Synchronous, 0-9600 baud (Model 9481).

Communications interfaces with modems:

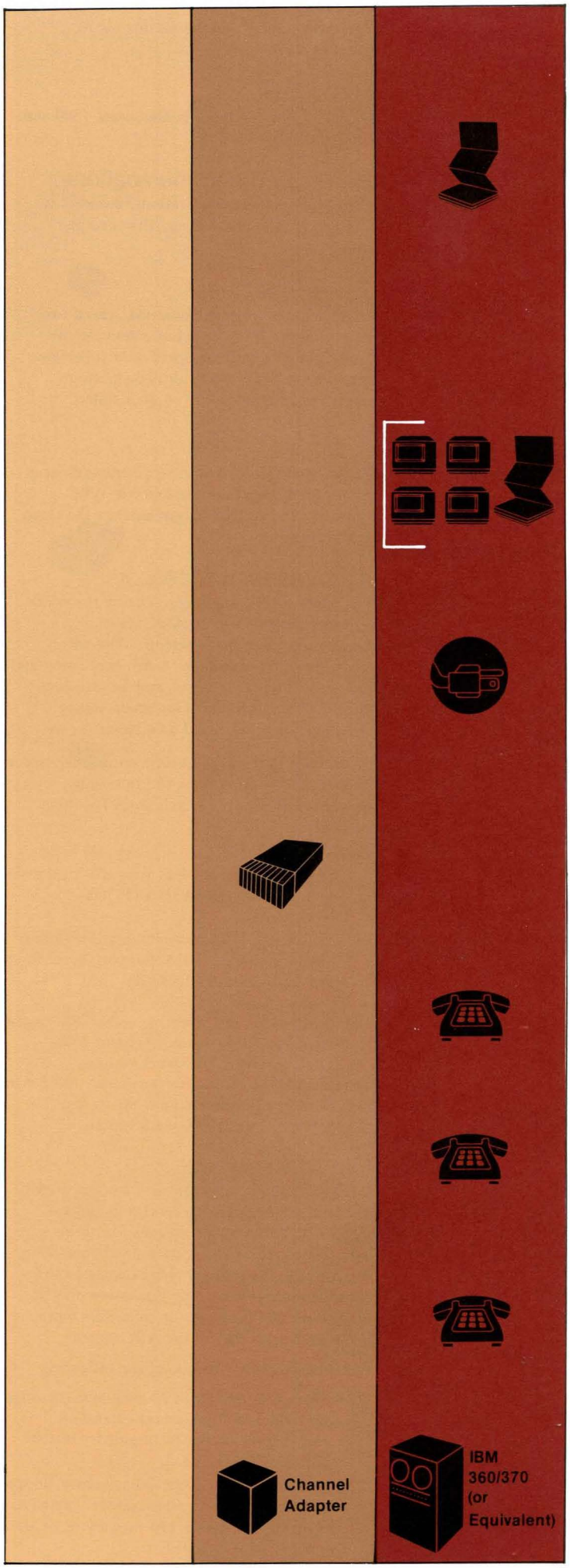
Bell 103 compatible, 110-300 baud (Model 9401).
Bell 202 compatible, 300-1200 baud (Model 9402).
Current loop keyer, 110-300 baud (Model 9403).

Asynchronous modems:

For use with DATASHARE remote terminals. Full duplex modems with 1200 baud transmit, 150 baud receive (Model 9408), or 150 baud transmit, 1200 baud receive (Model 9409). Connects directly to 9462 Multiport Interface or terminal interface.

Channel Adapter

Accomplishes data transfer and communications with an IBM 360/370 (or equivalent) mainframe. May be of interactive or batch nature with a variety of software available. Connects directly to the byte multiplexer channel of the mainframe.



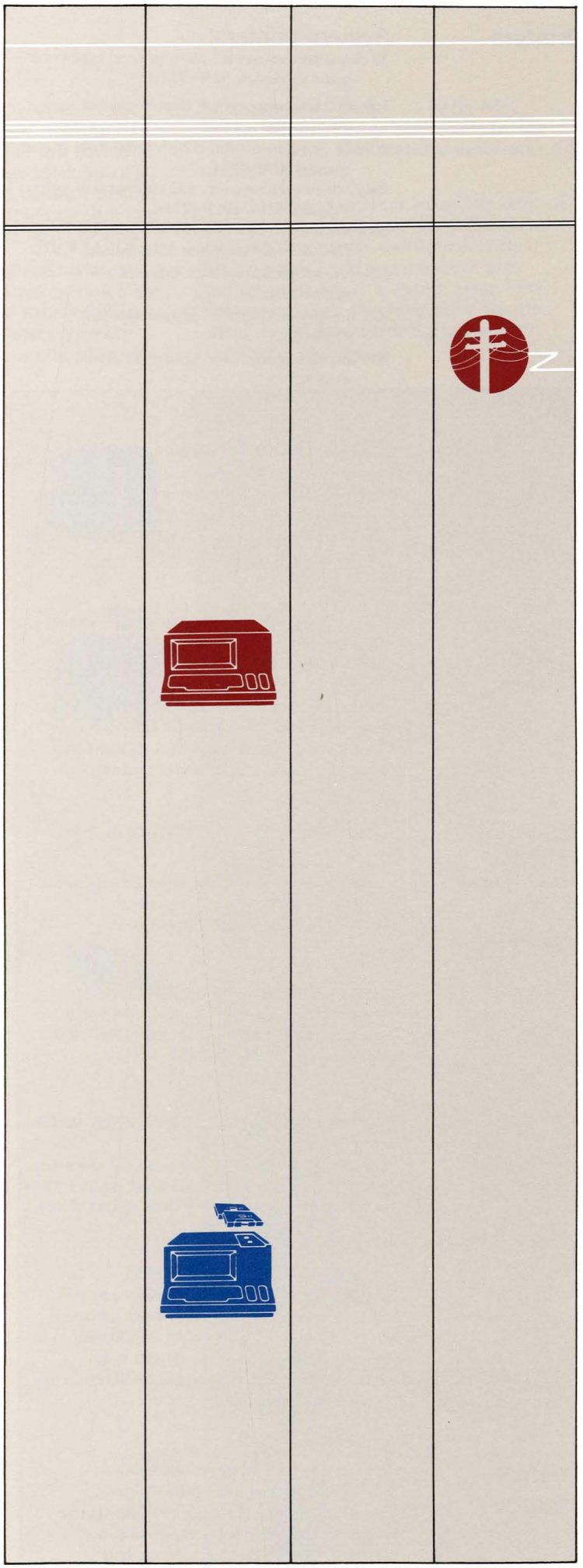
Communications Lines

I/O bus:
Connects parallel peripherals directly to Datapoint processor.

Micro bus:
High-speed bus connecting Datapoint 1500 and 1800 to diskette modules.

Hard-wired communications:
Connects serial communications terminals to interfaces, or each other via "twisted pair" connection.

Telephone lines:
Standard, dial-up or conditioned, leased two-wire circuits for low-speed interactive communications or medium-speed data collection; four-wire leased circuits for high-speed interactive communications or data collection.



Attached Resource Computer Components

These symbols are used to represent additional components which are employed in ARC systems. Where possible, symbols are the same as shown above.

Applications processors:
The applications processors perform the actual program execution in an ARC system. Applications processors perform data entry, communications functions, batch processing and print spooling. Disk drives may be attached directly to some applications processors to provide a local, restricted data base.

In addition to those processors designated earlier as applications processors, the following processors are designed exclusively for this purpose:

Datapoint 6010: 60K user memory, 8K system memory, integral RIM. Supports local disks and up to 16 DATASHARE 3600 workstations.

Datapoint 6020: 120K user memory, 8K system memory, integral RIM. Supports local disks and up to 24 DATASHARE 3600 workstations.

Datapoint 3810: 60K user memory, 8K system memory, RIM. Supports up to four DATASHARE 3600 workstations.

Datapoint 3820: 120K user memory, 8K system memory, RIM. Supports up to four DATASHARE 3600 workstations.

File processors:
File processors manage the disk storage of ARC systems. Managing files, servicing and controlling data movement requests, buffering data, coordinating file updates, and controlling file security, file processors are dedicated to data file management. File processors may be used to execute programs or enter data when not operating as part of the ARC system.

File processors may be one of the following:

4634: Datapoint 6600 with 20 megabyte cartridge disk; 20- and 40-megabyte extensions available for up to 160 megabytes of data storage. RIM included.

4654: Datapoint 6600 with 120 megabyte storage module system; 60-megabyte extension available for up to 180 megabytes of data storage. RIM included.

Interprocessor Bus

The interprocessor bus, a sophisticated electronic pathway, provides for the transfer of data between file and applications processors at extremely high speeds.

Resource Interface Module (RIM):

Attached to the I/O bus of each ARC system processor, the RIM uses a small, high speed processor to monitor, control, and buffer data moving through the interprocessor bus. RIMs manage interprocessor communications, freeing the processors for more efficient performance. Up to 6 RIMs may be attached to any single processor to allow it to be a part of several different ARC systems. Model 9483.

Active hub:

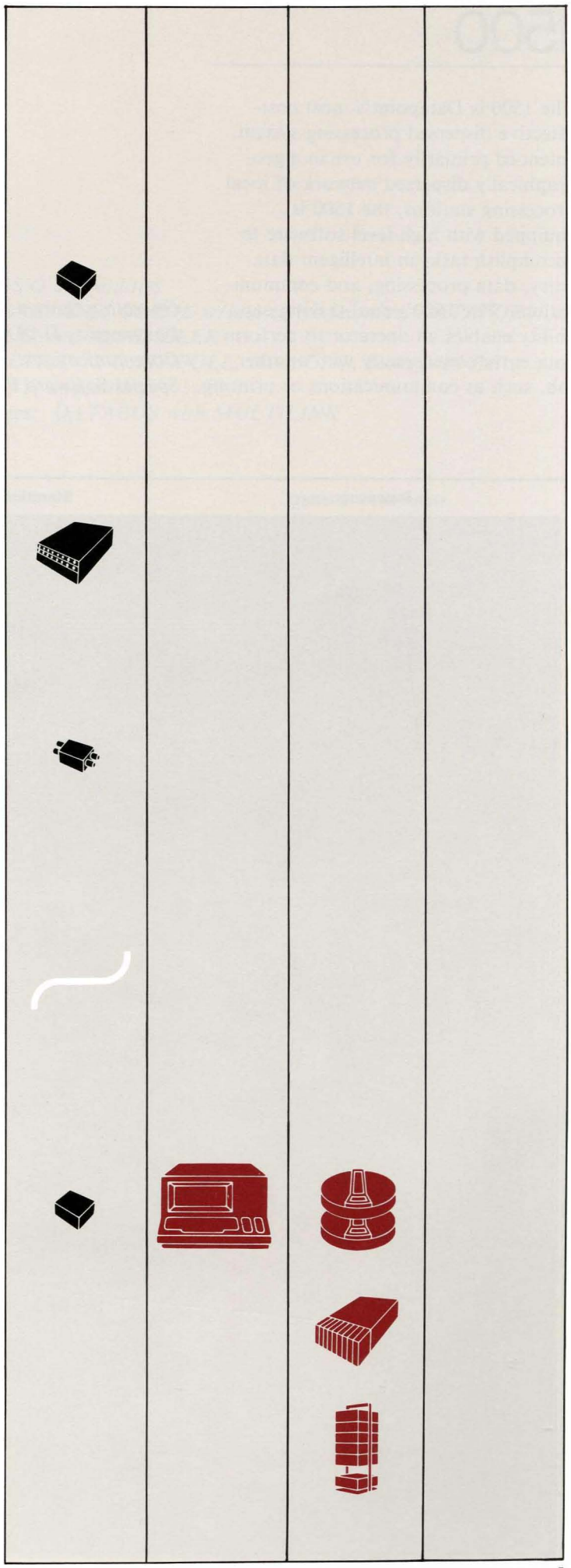
Allows up to 8 (16 with hub expander card) RIMs or additional active hubs to be part of an ARC system. The active hub has an integral power supply and provides signal amplification and conditioning. Model 9484.

Passive hub:

Allows up to four RIMs to be linked in an ARC system. Requires no power supply. (The sum of the two longest lengths of cable attached to a passive hub may not exceed 200 feet.) May not be used in conjunction with 9484 active hub, above. Model 9485.

Bus:

Coaxial cable providing connections between RIMs and hubs. Any one run of cable in an ARC system may extend up to 2,000 feet before requiring an additional 9484 active hub for signal amplification.



Communications Management

Any of Datapoint's Communications Management Products may be used with ARC to provide a system integrating many different functions. The INFOSWITCH™ Long Distance Control System, Station Message Detail Recorder, Passive Monitor, and Automatic Call Distributor can help manage and control business telephone costs. An INFOSWITCH system processor attaches to ARC through a RIM, like any other applications processor.

1500

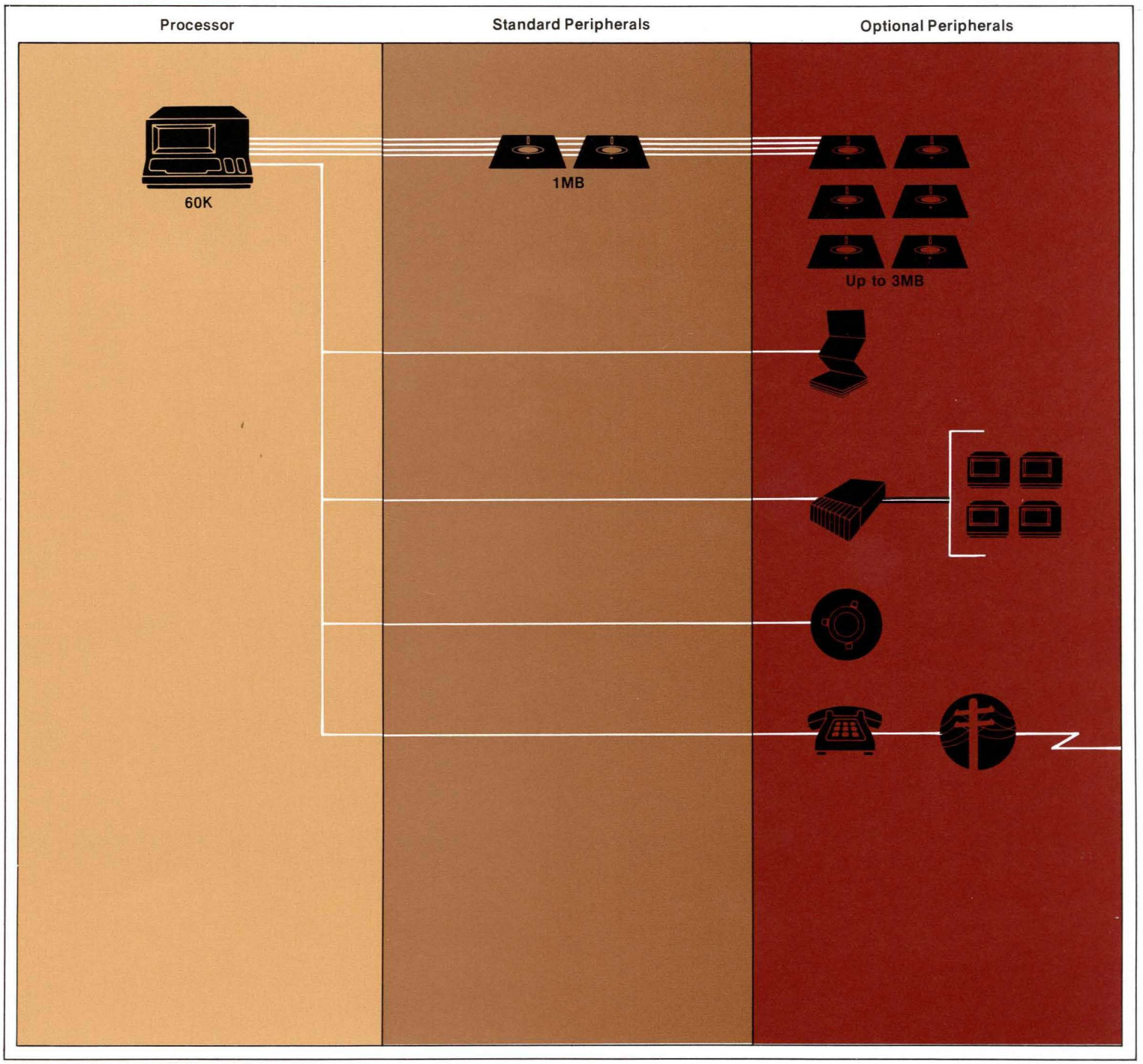
The 1500 is Datapoint's most cost-effective dispersed processing system. Intended primarily for use in a geographically dispersed network of local processing stations, the 1500 is equipped with high-level software to accomplish tasks in intelligent data entry, data processing, and communications. The 1500's dual-tasking capability enables an operator to perform data entry concurrently with another job, such as communications or printing.

Operating System: DOS.H and utilities
Languages: DATABUS® 15 and DATAFORM® 15
Communications: DATAPOLL®, IBM 3275, IBM 3780, IBM 2780, and TTY
Special Software Features: Concurrent jobs capability

1800

The 1800 is a versatile, low-cost dispersed processing system that can function as a stand-alone data entry and processing facility, in a four-user DATASHARE system, as a member of a geographically dispersed network, or as a participant in a larger ARC system. The 1800 supports all Datapoint programming languages and may perform two concurrent tasks through MULTILINK™. Communications may take place in batch or real-time modes.

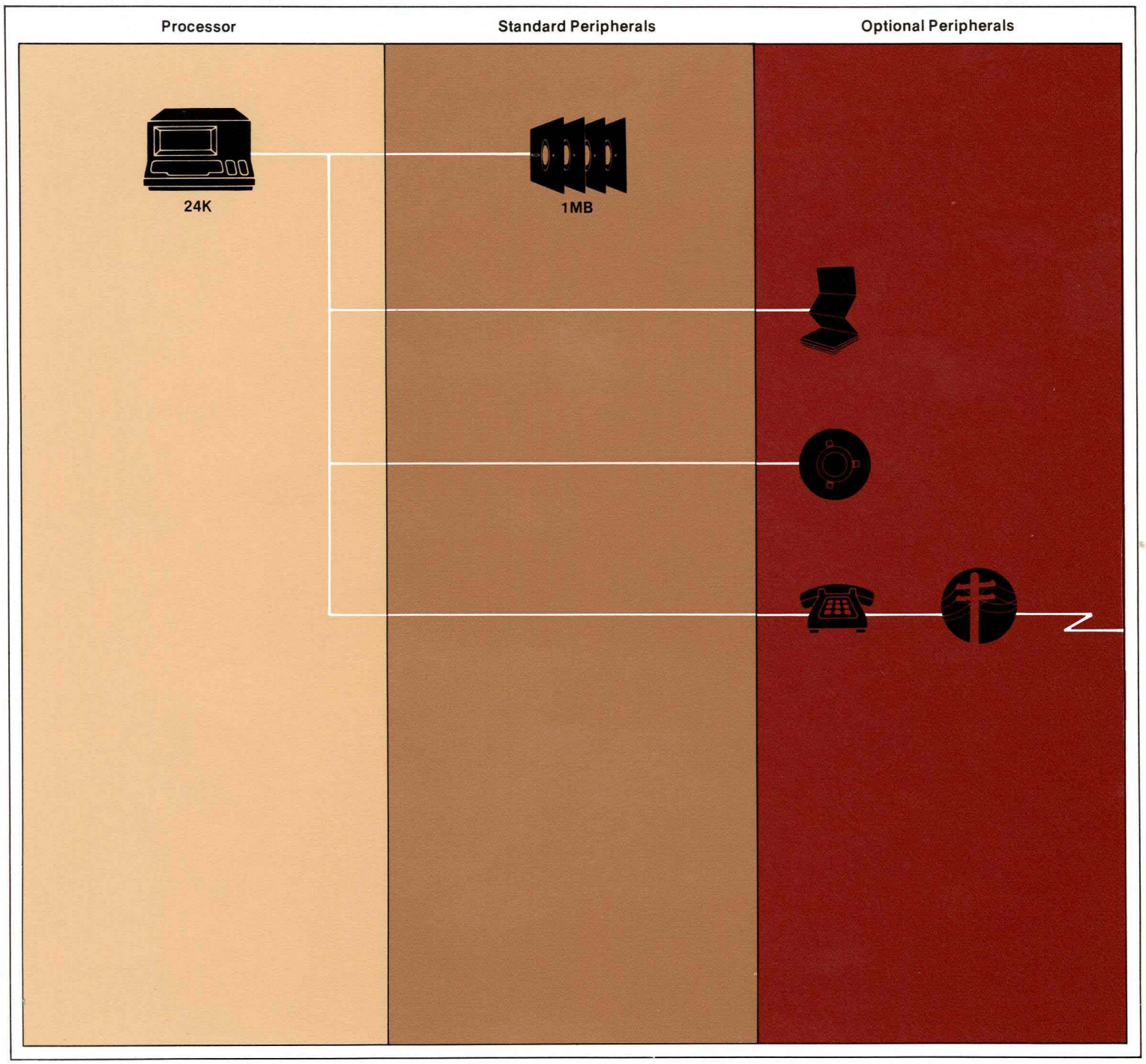
Operating System: DOS.G and utilities
Languages: DATASHARE, ANSI COBOL w/interactive features, DATAFORM, RPGPLUS, BASICPLUS, and ASSEMBLER
Communications: MULTILINK, DATAPOLL, IBM, CDC, Honeywell Batch Terminal Emulators, TTY, and others
Special Software Features: DATABUS with MULTILINK



1150

The 1150 is an extremely versatile dispersed processing system, doubling as a stand-alone processing/data entry facility and as a station on multi-dropped or point-to-point networks. Memory partitioning capabilities enable the 1150 to perform two tasks at once, such as data entry with concurrent communications. Communications can occur in either batch or real-time modes.

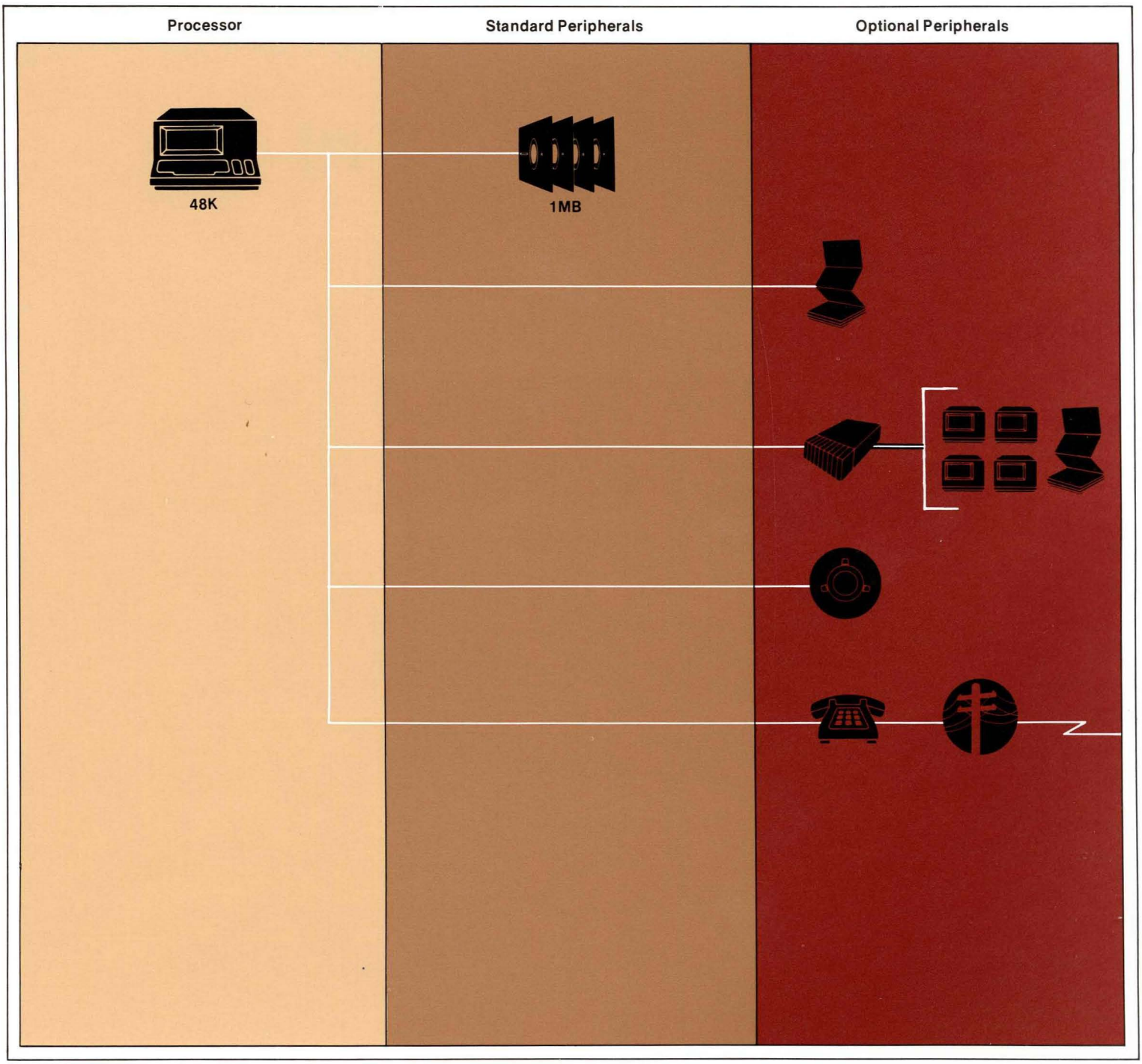
Operating System: DOS.C and utilities
Languages: DATASHARE, ANSI COBOL w/interactive features (execution only), BASICPLUS, RPGPLUS, and Assembler
Communications: MULTILINK, DATAPOLL, IBM, CDC, Univac, Honeywell Batch Terminal Emulators, TTY, and others
Special Software Features: DATASHARE with MULTILINK



1170

The 1170 system offers the stand-alone capabilities of all Datapoint processors, as well as the ability to run DATASHARE multiuser processing software. It supports up to four DATASHARE users, each executing the same or different application programs. In addition, the 1170 supports the same real-time communications as does the 1150 system.

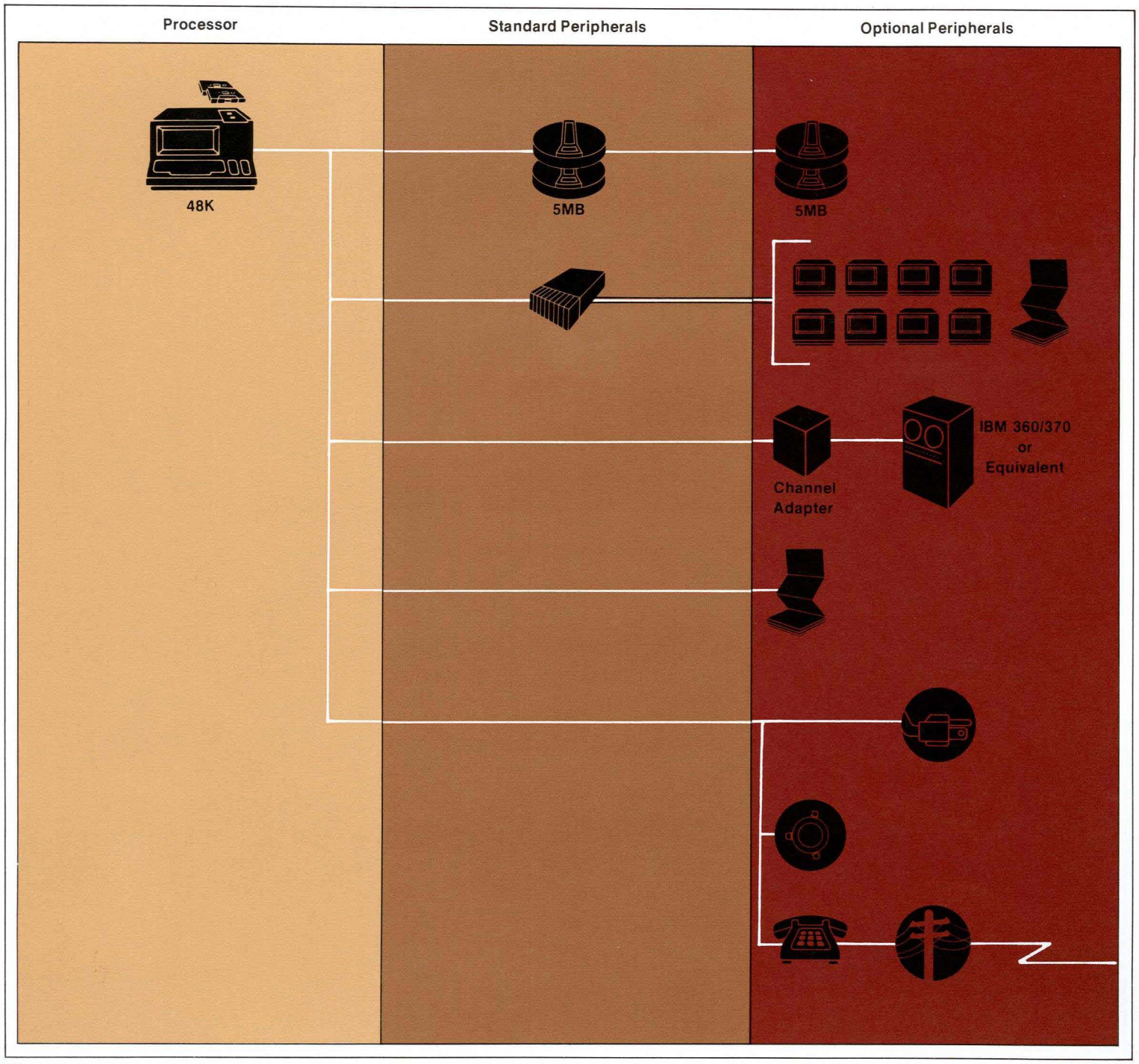
Operating System: DOS.C and utilities
Languages: DATASHARE, ANSI COBOL w/interactive features (execute only), BASICPLUS, RPGPLUS, and Assembler
Communications: MULTILINK, DSNET™, DATAPOLL, IBM, CDC, Univac, Honeywell Batch Terminal Emulators, TTY, and others
Special Software Features: DATASHARE with MULTILINK and DSNET



4520

The 4520 is intended for interactive transaction processing, featuring the DATASHARE multiuser, multiapplication software system. It can also be a batch processing facility with high-level languages like COBOL. It uses the 5500 Advanced Business Processor, and supports a wide variety of languages and communications packages.

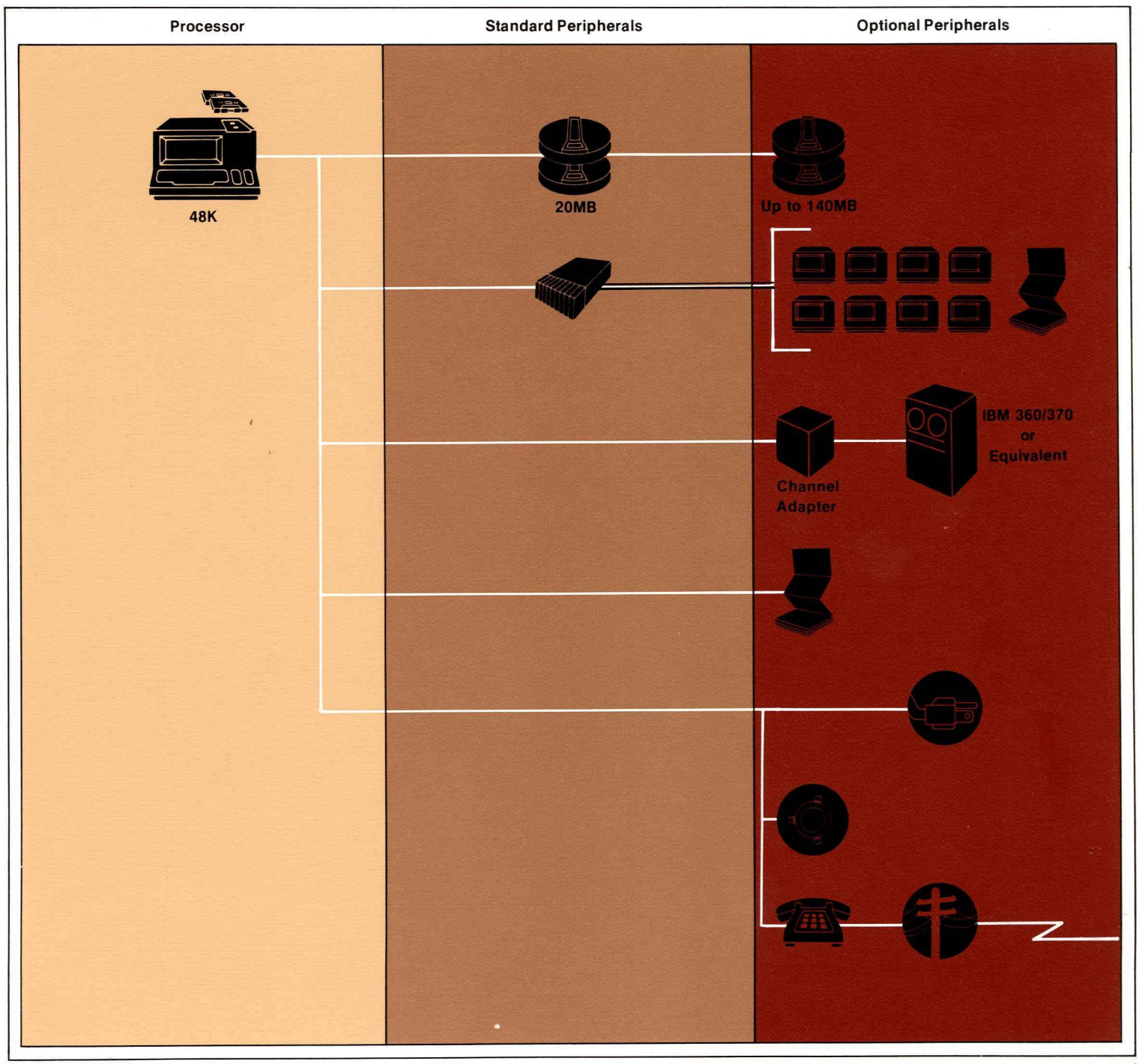
Operating System: DOS.E and utilities
Languages: DATASHARE, ANSI COBOL w/interactive features, BASICPLUS, RPGPLUS, DATAFORM, and Assembler
Communications: MULTILINK and DSNET, DATAPOLL, IBM, CDC, Univac, and Honeywell Batch Terminal Emulators
Special Software Features: Utility Partition Supervisor



4530

This system provides more disk capacity than the 4520 system, with extensions available to increase the on-line storage to 160 megabytes. Up to 16 user terminals are supported by the 4530 DATASHARE configuration. All Datapoint languages, including the MULTILINK telecommunications facility, will run on this system.

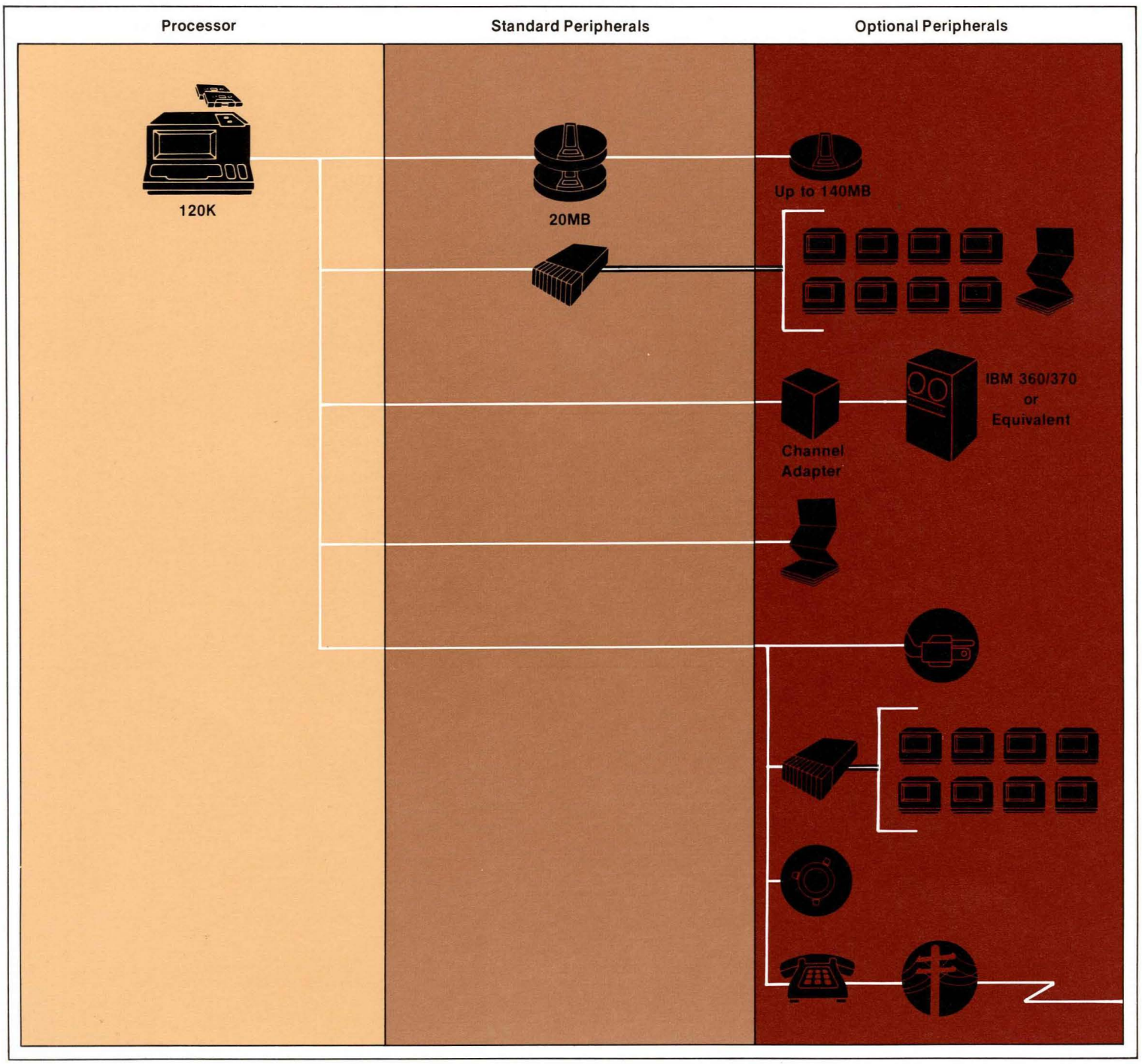
Operating System: DOS.D and utilities
Languages: DATASHARE, ANSI COBOL w/interactive features, BASICPLUS, RPGPLUS, DATAFORM, and Assembler
Communications: MULTILINK, DSNET, DATAPOLL, IBM, CDC, Univac, and Honeywell Batch Terminal Emulators
Special Software Features: Utility Partition Supervisor



4630

The 4630 system incorporates Datapoint's most powerful processor the 6600. It has the speed and versatility to handle nearly all business data processing requirements. Whether using the 4630 to support 24 DATASHARE terminals, or as a batch processing installation, this configuration makes network design a simple task.

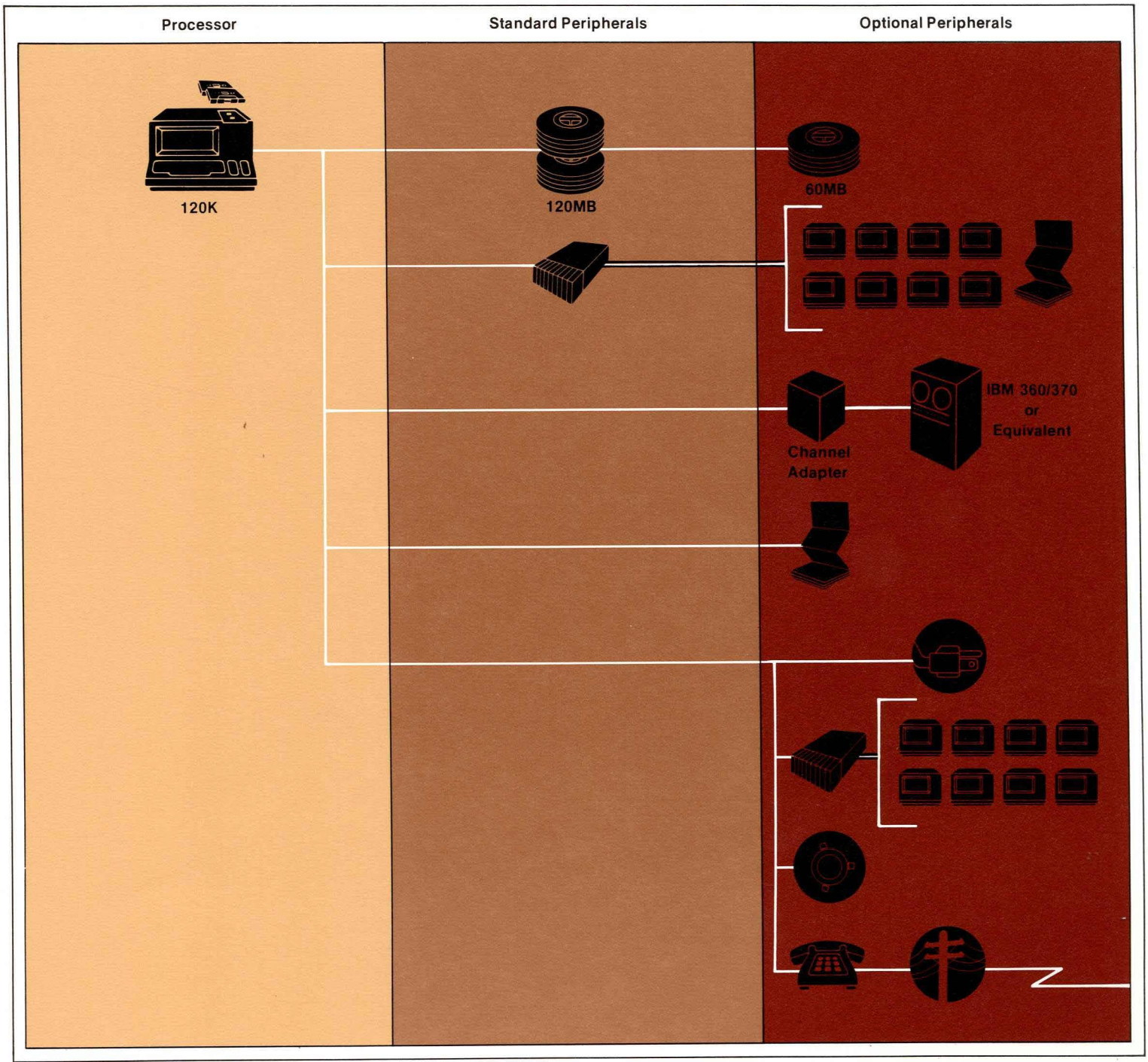
Operating System: DOS.D and utilities
Languages: DATASHARE, ANSI COBOL w/interactive features, BASICPLUS, RPGPLUS, DATAFORM, and Assembler
Communications: MULTILINK and DSNET, DATAPOLL, IBM, CDC, Univac, and Honeywell Batch Terminal Emulators
Special Software Features: Utility Partition Supervisor



4650

Using the 6600 processor, the 4650 system approaches the capability of many mainframe computers. It includes a disk system with a capacity of up to 180 megabytes of on-line storage. As a "mini-mainframe" this system can cope with the most demanding business data processing applications.

Operating System: DOS.D and utilities
Languages: DATASHARE, ANSI COBOL w/interactive features, BASIC, RPGII, DATAFORM, and Assembler
Communications: MULTILINK, DSNET, DATAPOLL, IBM, CDC, Univac, and Honeywell Batch Terminal Emulators
Special Software Features: Utility Partition Supervisor



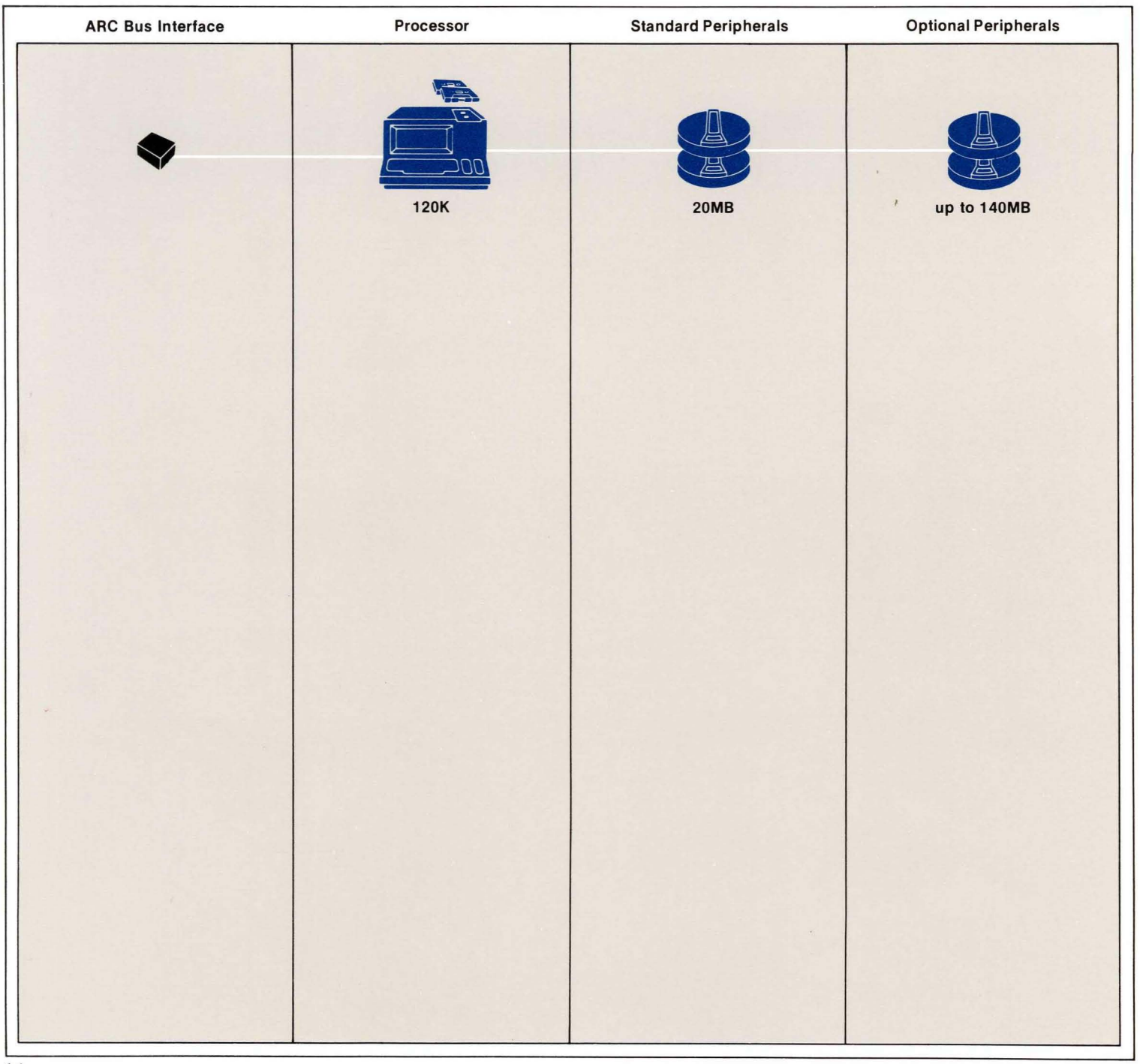
4634 ARC File Processor

Datapoint's Attached Resource Computer applies the concept of functional division of labor to dispersed data processing. Two types of dedicated processors are employed: Applications Processors, those responsible for the actual program execution in the system, and File Processors, which manage the data files common to ARC system users.

Each File Processor stores and retrieves data by request from the system's Applications Processors. Although each File Processor supports a finite disk data storage capacity, as many of them can be attached to an ARC system as are needed. This division of the database among several File Processors is accomplished without change in operational procedures. Users need not know at which of several sites their data may be physically located.

ARC File Processors are available in two sizes: the 4634 supports 20MB of cartridge disk (expandable to 160MB), the 4654 supports 120MB (expandable to 180MB).

The 4634 File Processor includes:
Datapoint 6600 Advanced Business Processor
20MB cartridge disk
Resource Interface Module (RIM)
Software and documentation

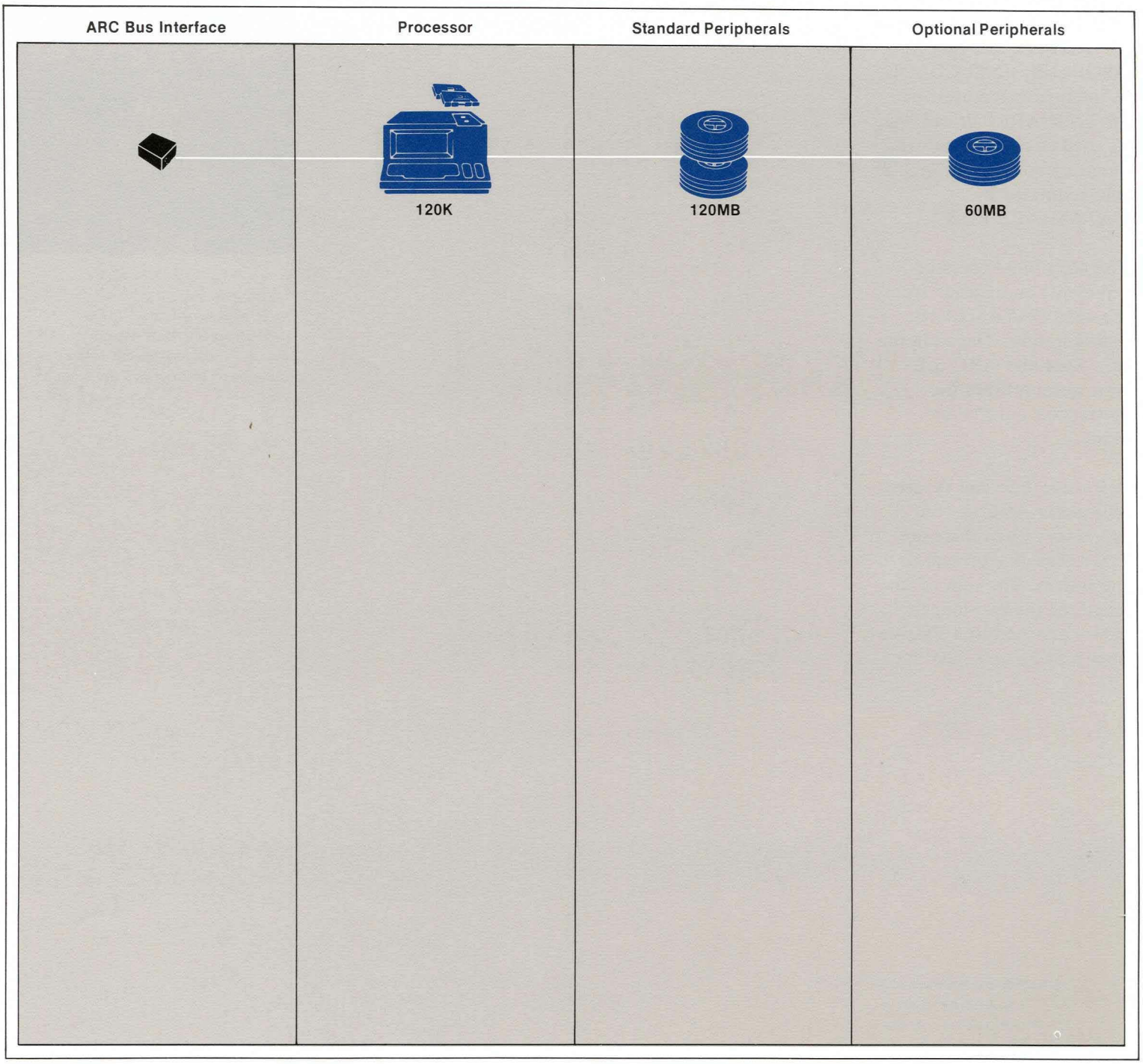


4654 ARC File Processor

The larger capacity ARC 4654 File Processor uses Datapoint's 120MB Storage Module System for high-speed data retrieval. Its two drives each contain a 60MB removable disk pack. An extension drive (9391) boosts the file storage capacity to 180MB.

An ARC system may use both 4634 and 4654 File Processors. For additional "backup" storage, an Applications Processor with magnetic tape (or any other storage medium) can also be employed. However, access to that backup information would then be available only to that particular Applications Processor.

The 4654 File Processor includes:
Datapoint 6600 Advanced Business Processor
120MB disk storage
Resource Interface Module (RIM)
Software and documentation



Basic ARC Configuration

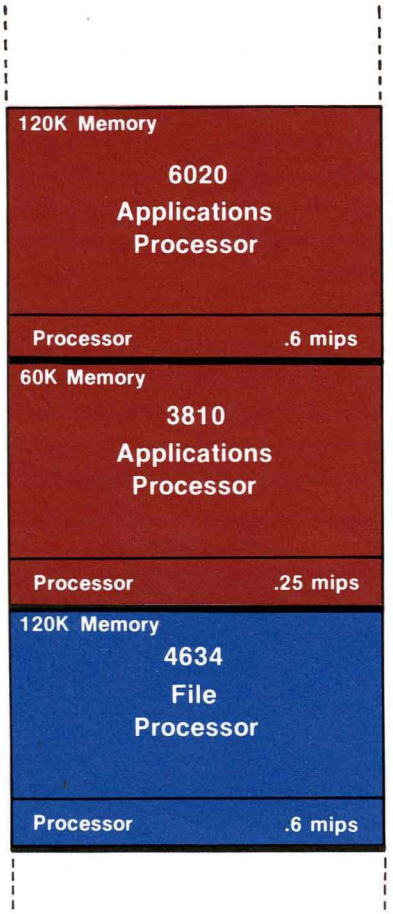
This small ARC system could be considered the next logical growth step up from a 4630 DATASHARE system. The DATASHARE equipment, programs, and software can be used in an ARC system without modification.

The 6600 Applications Processor can be running a DATASHARE system with up to 24 users. A 3800 processor can be configured for the generation and execution of batch programs (in BASICPLUS, RPGPLUS, ANSI COBOL w/interactive features, or DATASHARE). It can also be used as a print spooler, queueing and executing print jobs requested by DATASHARE users.

The 4634 File Processor represents an upgrade from the 4630 DATASHARE configuration. The addition of a RIM and ARC software accomplishes the conversion quickly and easily.

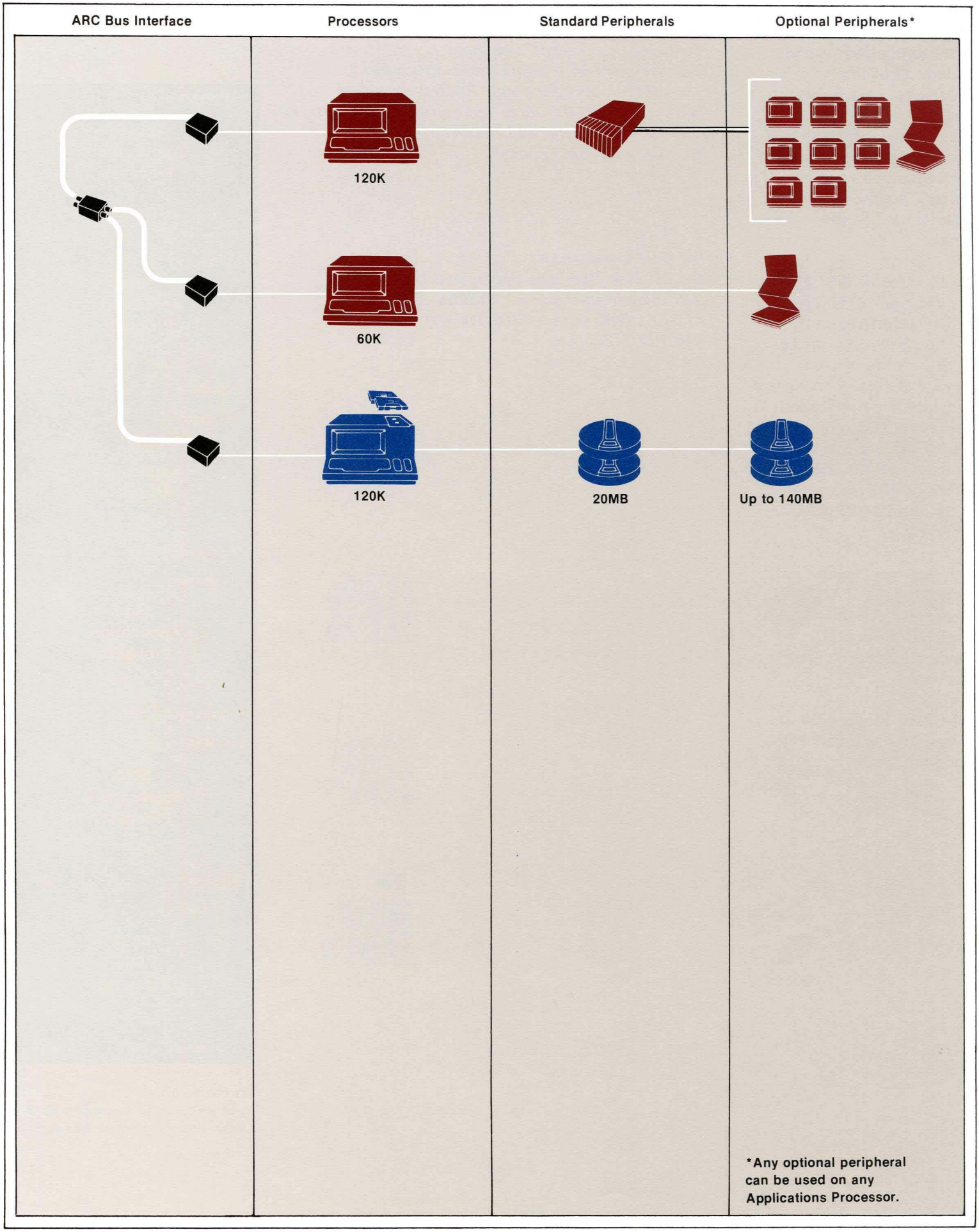
A Passive hub can be used to connect ARC system processors when there are fewer than five present in the system. The sum of the length of the two longest cables attached to a Passive hub may be up to 200 feet.

Operating System: DOS.D and utilities
Languages: DATASHARE, DATAFORM, ANSI COBOL w/interactive features, BASICPLUS, RPGPLUS, and Assembler
Communications Options: MULTILINK, DSNET; and IBM, Univac, and Honeywell Batch Terminal Emulators



Three processor unit:
Total Processor User Memory: 300K
System Processing Speed: 1.45 mips
(millions of instructions per second)

Basic ARC Configuration



ARCPACs are prepackaged ARC configurations that include all of the processing, data storage, and software components needed for a complete ARC system. All components, including cables and connectors, are available under a single model code number.

Two models of ARCPAC are available: 4734 and 4754. The difference between the two systems lies in the amount of data storage offered. Each system provides five Applications Processors (Datapoint 3810s) and one File Processor (either 4634 with 20MB of disk storage or 4654 with 120MB of disk storage.)

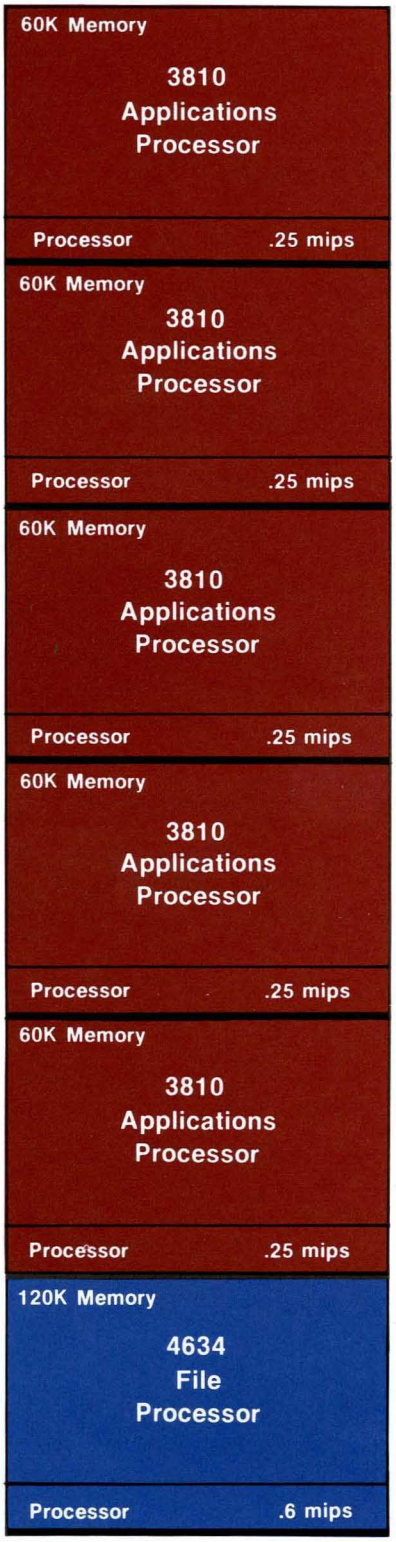
All other peripherals, such as printers, DATASHARE terminals, telecommunications devices, magnetic tape, etc. are optional.

ARCPAC Model 4734 is shown here schematically and symbolically.

4734

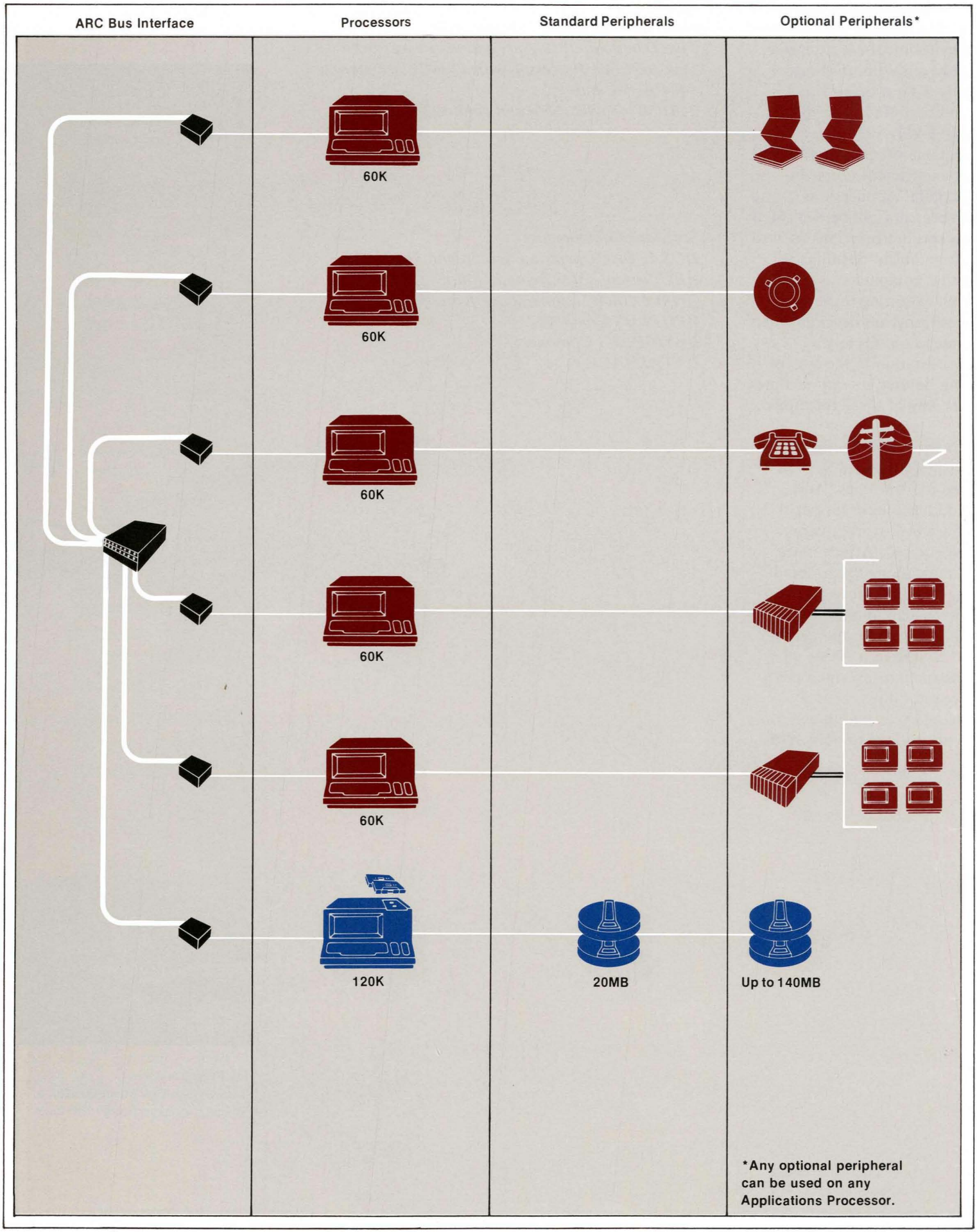
Hardware Components (standard):
Five Datapoint 3810 Applications Processors
One 4634 File Processor with 20MB disk storage
9484 Active hub (for up to eight processor connections)
3461 50' coaxial cable and connector kits
All other hardware optional

Software Components:
DOS.D Disk Operating System and Utilities
ARC System software and Utilities
ANSI COBOL w/interactive features
RPGPLUS Compiler
BASICPLUS Compiler
DATASHARE



Six Processor Unit:
Total Processor User Memory: 420 K
System Processing Speed: 1.85 mips

ARCPAC 4734


ARC Bus Interface
Processors
Standard Peripherals
Optional Peripherals*
60K
60K
60K
60K
60K
120K
20MB
Up to 140MB
*Any optional peripheral can be used on any Applications Processor.

The possibilities for applying ARC to the business environment are extensive. Add a multiport interface to any 3800 processor and it can become a shared-logic DATASHARE processor capable of supporting up to four different users. Individual Applications Processors can be dedicated to specific functions such as communications links to other computers, queueing and executing print jobs, new program development, and so on. Or any workstation in the system can be used at various times for any of these functions.

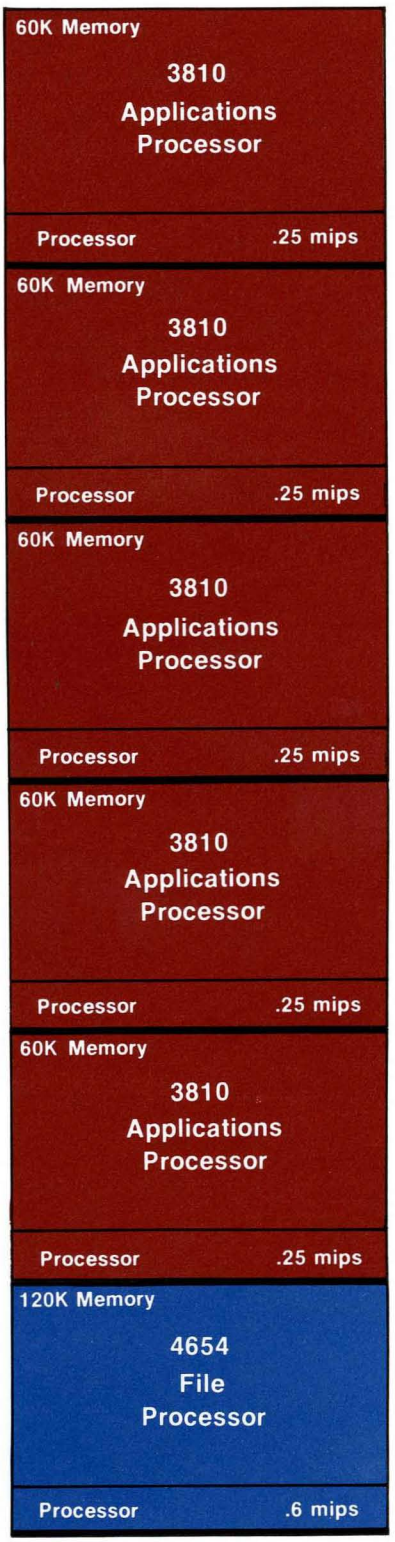
Growth can take place easily in planned, economical steps. Add another File Processor if more disk storage capacity is required. Attach more Applications Processors if more people need access to the system. You'll notice that system throughput, as measured in millions of instructions executed per second (mips), actually increases as you attach more workstations to your ARC.

Shown here is ARCPAC Model 4754.

4754

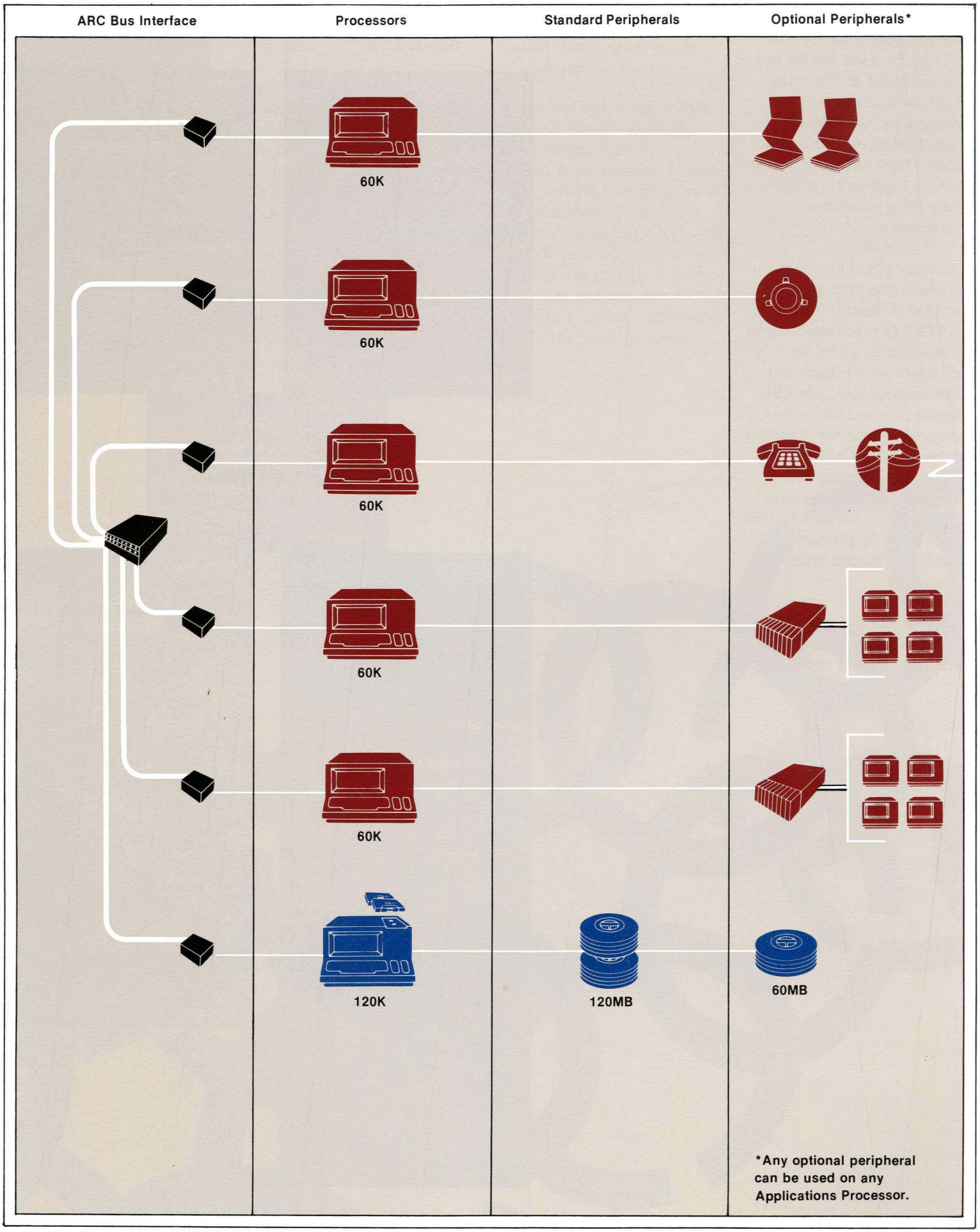
Hardware Components (standard):
Five Datapoint 3810 Applications Processors
One 4654 File Processor with 120MB disk storage
9484 Active hub
3461 50' coaxial cable and connector kits

Software Components:
DOS.D Disk Operating System and Utilities
ARC System software and Utilities
ANSI COBOL w/interactive features
RPGPLUS Compiler
BASICPLUS Compiler
DATASHARE



Six Processor Unit:
Total System User Memory: 420K
System Processing Speed: 1.85 mips

ARCPAC 4754


ARC Bus Interface
Processors
Standard Peripherals
Optional Peripherals*
60K
60K
60K
60K
60K
120K
120MB
60MB
*Any optional peripheral can be used on any Applications Processor.

Growth through Attached Processing

By attaching two or more Active hubs together, the size of an ARC system can be increased dramatically. Each hub can link fifteen processors, with the sixteenth line going to another hub. Many hubs can thus be strung together to support a very large number of processors.

Another possibility is to connect one processor to several different "sub-ARCs" (a processor may be connected to up to six different hubs). Each hub can connect to a sub-ARC which can contain its own data files, separate from the other sub-ARCs. Only the common processor has access to both data bases. This built-in security feature is another by-product of ARC's advanced system design.

Shown here are examples of both ARC expansion techniques (fold out).