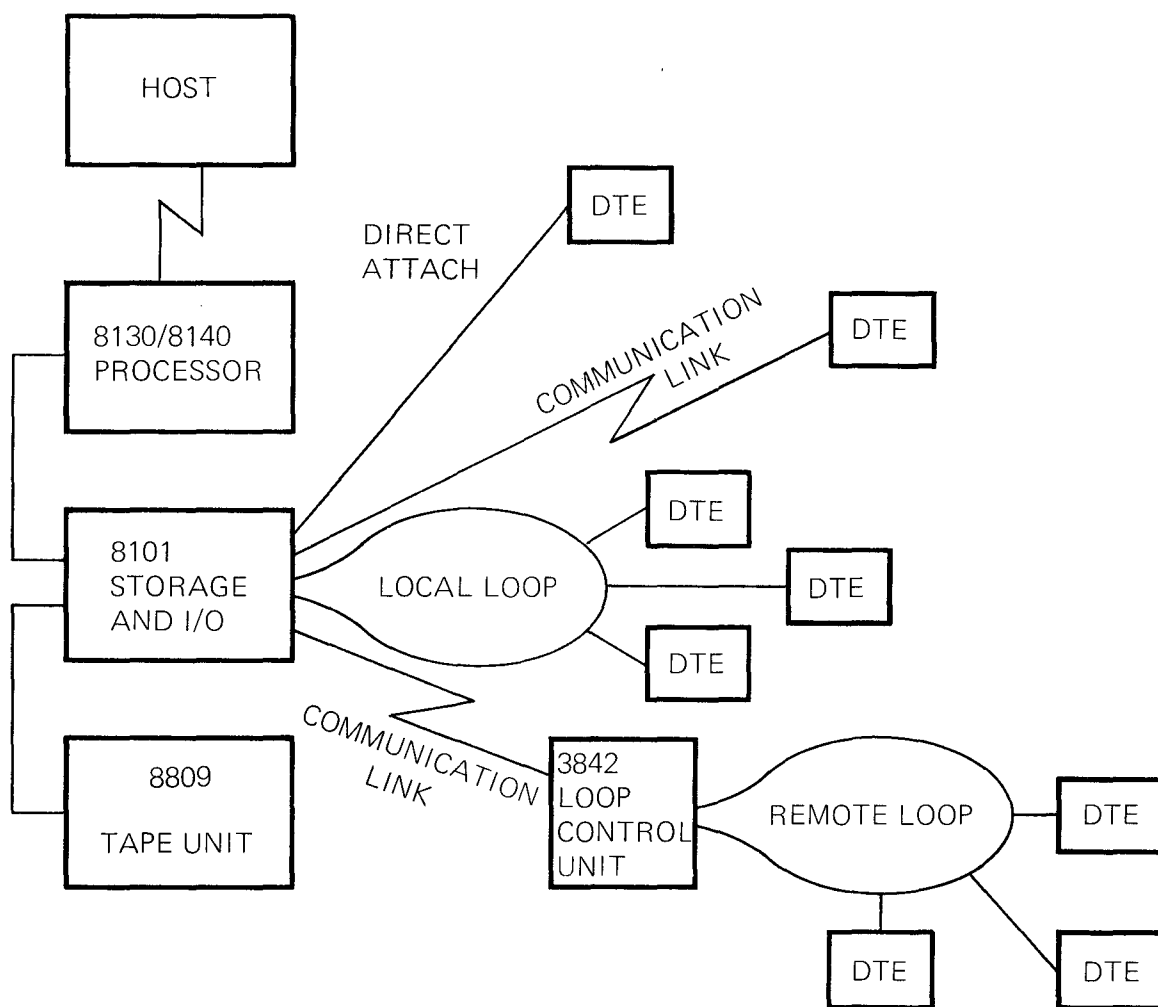# IBM Information System 8100

DISTRIBUTED SYSTEM INTRODUCTION

The concept of a distributed processing system
is to fully utilise a central data base, whilst ful -
filling the needs of end users. That is, to improve
productivity, decrease costs and to enable them to
perform their tasks more efficiently.

Distributed processing enables end users at many
locations to perform processing tasks in a wide
variety of ways, each being tailored to individual
application requirements.

Distributed processing is achieved by using
programmable devices with data storage,
together with host or peer processors, linked
together to form a network.

8100 INFORMATION SYSTEM

Description

The IBM 8100 System is a family of products designed to meet the diversified requirements of data processing.

The 8100 System consists of the following machines: -

- 8130 and 8140 Processors
- 8101 Storage and I/O Unit
- 8809 Tape Unit

The 8775 display terminal to be used on the 8100 System is also being announced at this time.

The 8100 System offers a choice of processing speed, storage size, disk capacity and a large number of new and existing I/O devices.

The IBM 8100 Information System can operate: -

- As a satellite to an IBM S/370 Central Host Site
- As a Peer to another IBM 8100 System
- As a Stand-alone computer

System Highlights

- Can adapt computing power to organisational requirements
- Back-up/Reliability as required
- Standardization of application design if required

All photos in this broschure are of design models.

SYSTEM 8100 LICENSED PROGRAM PRODUCTS

☐ DPPX/Base — Distributed Processing
Programming Executive/Base

☐ DPCX — Distributed Processing
Control Executive

DPPX family of licensed programs —

on 8100 —

- DPPX/Base
- DPPX/DTMS — Data Base and Trans-
action Management
System
- DPPX/DPS — Distributed Presen-
tation Services
- DPPX/DMS — Development Manage-
ment System
- DPPX/RJE — Remote Job Entry
Workstation Facility
- DPPX/DSC — 3270 Data Stream
Compatibility
- DPPX/COBOL — Compiler and Library
- DPPX/FORTRAN — Compiler and
Library
- DPPX/ASSM — Assembler
- DPPX/GEN 3644 — Parameter Table
Generation Facility
for IBM 3644 Auto-
matic Data Unit
- DPPX/SORT — Sort/Merge
- DPPX/PT — Performance Measure-
ment Tool

on system/370 Host —
- DSX Distributed System Executive
version 2
- Host Command Facility

DPPX/Base can be used as stand-alone system or
attached to a system 370. It includes the usual
operation system components

DPCX is a Program Control System that allows
migration from the 3790 system to 8100
Information System.

CUSTOMER PROBLEM DETERMINATION AIDS

DISTRIBUTED SYSTEMS NETWORK MANAGEMENT

(System/370 Host Licensed Program
Product)
☐ Allows a S/370 - 3270 Display user to act
as the console operator for multiple
DPPX/8100 systems connected to the
S/370.
☐ Allows the S/370 3270 user to issue
any command and use any function
available to a 3270 at the DPPX/8100
system site.
☐ Allows the customer to distribute his
processing while keeping the data
processing expertise at the host site.

DISTRIBUTED SYSTEMS EXECUTIVE

(System/370 Host Lincensed Program
Product)
☐ Data Set Management
☐ Allows receipt of DPPX data sets
including error logs, dumps, and
other problem determination data.

8130 AND 8140 PROCESSORS DESCRIPTION

The IBM 8130 or 8140 processor units
provide control, storage, processing capa -
bility, disk storage, diskette storage and
communications capabilities for the IBM
8100 Information System. The major
difference between the 8130 and 8140
processors is the operating speed. Under
DPPX System Control Program, the
8140 executes instructions approximately
60% faster than the 8130 but has compatible
functional characteristics.

Models

8130 Processor is available in eight models
and 8140 Processor is available in twelve
models depending on processor memory
size and non-removable disk storage size.
Processor memory size ranges from 128K
bytes to 512 bytes. Non-removable disk
storage options range from 23 mega-bytes
to 64 mega bytes.

All models include removable diskette
storage of 1M byte.
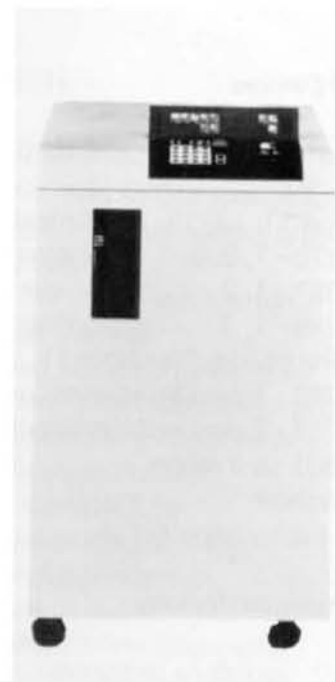
Highlights

The capability of the 8130 and 8140 processors
is extended by providing for the attachment of
a variety of input/output devices. These devices
consist of displays, printers, magnetic tape,
controllers and data collection units. These
devices may be attached via communication
facilities which include direct attached or data
link attached loops, and direct connected or
remote data links. This capability can be
expanded by attachment of the 8101.

Feature Highlights

- High Function Panel (8140 only)
- Floating Point (8140 only)
- SDLC Communication
- BSC Communication
- S/S Communication
- Keylock
- 8101 attachment allows additional disk
  storage, communications and direct
  attachment capabilities.
- 8809 Tape Attachment Capability
- Power Control Feature

Attachable I/O Devices

Devices which attach to loop (directly or data link attached) include:

- 3276   Mod 11, 12, 13, 14 control unit/display
  - 4278 - 1, 2, 3, 4   display
  - 3287 - 1, 2   printer
  - 3289 - 1, 2   printer
- 3289 - 3 line printer (See Note 1)
  - 3782 - 1 card attachment unit and 3521 card punch
  - 3782 - 2 card attachment unit and 2502 card reader
  - 3501 card reader
- 3287 - 1 printer
- 8775   display/terminal

Plant Communication devices: -

- 3641 - 1, 2 reporting terminals
- 3642 - 1, 2 encoder printer
- 3643 - 2, 3, 4 keyboard printer
- 3644   automatic data unit
- 3645   printer
- 3646   scanner control unit

Note 1: The 3289 Model 3 Line (Belt) Printer attaches to the System via a direct attached or a data link attached communication loop

- Maximum Print Speed is 400 LPM
- Features -

Audible Alarm
Security Keylock
2502 Card Reader
3501 Card Reader
3521 Card Punch

Devices which attach directly to the 8101 expansion unit: -

- 3277 - 1, 2 display
- 3284 - 1, 2 printer
- 3286 - 1, 2 printer
- 3287 - 1, 2 printer
- 3288 - 2   printer

Devices which attach to communication link include: -

- Sys/370 Host (3704/05)
- Other Sys 8100
- 3276   Mod 11, 12, 13, 14 control unit/display
  - 3278 - 1, 2, 3, 4   display
  - 3287 - 1, 2   printer
  - 3289 - 1, 2   printer
- 3767 Mod 1, 2, 3   communication terminal
- 3631/3632 Plant Controller
- 3842/3843 Loop Control Unit
- 2741 Communication terminal
- 3601/3602 Finance Control Unit

Maintainability

- Hardcopy MAPs.
- Automatic retry in Common Adapter Code
- Error logging of intermittent problems
- Error log summary
- Logical connection verification allows end user to test the link
- Distributed System Environment Test is used in place of an application program as a known running application
- I/O and System Trace
- Operator Console Log
- Standalone or on-line dump
- System message numbers
- System return codes
- On-line and off-line diagnostics
- Bring up and extended IPL test
- APAR create in DPPX

8100 SYSTEM SUPPORT STRUCTURE

The 8100 Information System utilises the following Support Structure:—

- Data Processing CE Career path

- Retain 370

- Support Centres

For further details refer to TSI's

8101 STORAGE AND INPUT/OUTPUT UNIT

Description

Provides additional disk storage and I/O device attachment capability for the IBM 8100 Information System.

Models

A10 Device attachment capability and removable diskette storage and tape attachment

A11 Additional 29M byte disk storage, remo - able diskette storage, device attachment, and 8809 tape unit attachment.

A13 The model A13 is identical to the A11 except for the disk storage, which is 64M byte capacity.

Highlights

The 8101 storage and I/O unit extends the capability of the IBM 8100 Information System, by providing for the attachment of all input/output devices which can be attached to the 8130 and 8140 processors. The devices may be attached to the 8101 by loops, data link attached loops, communication facilities or direct attachment to the 8101. The 8101 can attach communication facilities and loop attachment, in any combination facilities and loop maximum of eight.
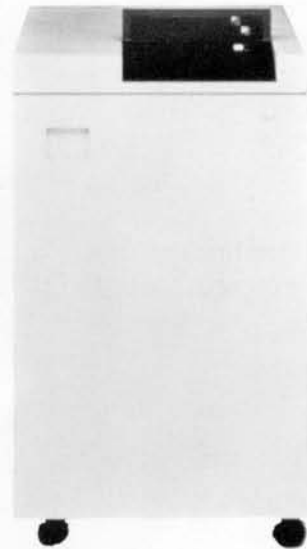
8809 TAPE UNIT

Description

The 8809 Magnetic Tape unit introduces a
new and simplified approach to the design
of magnetic tape drives. Tape is transported
directly from reel to reel without capstans
or vacuum columns, with tape tension and
velocity controlled electronically. System
8100 permits attachment of up to four
8809 units. 8809 has a two speed program -
able mode select which allows high speed load
dump in a data streaming mode, and low
speed processing in a start stop mode.

Functional Characteristics

- Tape Speed (Data Streaming mode) 2.54
  meters per second (100 inches per second)
- Tape Speed (Start Stop mode) .3175 metres
  per second (12.5 inches per second)
- Density - 1600 BPI
- Nominal data rate 20kb Start Stop Mode,
  160Kb Data Streaming Mode
- Interblock Gap IBG 0.6 inches or 1.2
  inches obtained by long gap set command
- Rewind speed - 5.08 metres per second (200
  inches per second)
- Reel size - 6.25 - 8.5 and 10.5 inches -
  Industry Standard Reels
- Loading/Threading - Manual
- The 8809 is compatible with IBM 2400
  and IBM 3400 tape sub-systems PE 9 track

Models

Models 1A, 1B, 2 and 3 differ only in attachment
position in the tape drive string.

Maintainability

Mechanical adjustments have been minimised,
simplified tape skew adjustment, using LED
indicators.

8775 PRODUCT DESCRIPTION

The IBM 8775 is an "intelligent" display terminal designed to combine increased function and versatility with low costs. As such, it is a comple - mentary upwards extension of the function and performance offered by the 3270 system. The IBM 8775 is attachable via a local or remote loop. The IBM 8775 consists of a display and keyboard. The display package is of a new design being lower in profile and weighing less than the IBM 3276. Character density is selected by the cust - omer. 960/1920/2560 characters may be displayed us ing 9 x 16 character matrix. 3440 characters may be displayed using the 9 x 12 character matrix.

The IBM 8775 extends the 3270 display functions with the optional addition of multiple partitions and data entry validation, using the appropriate software. The usual keyboard options will be provided.

CE Career Path

The IBM 8775 display terminal will be serviced
by customer engineers assigned to the data
recording product group using internal diagnostics
and MAPs.

Optional Features

Features include selector pen, audible alarm,
security keylock and magnetic slot reader. The
microcode associated with these features and
the base terminal is contained in ROS/RAM
modules within the terminal.

Installation

The IBM 8775 will follow customer set up
procedure (CSU). Set up instructions will be
provided with the machine, set up will be
simple and will not require tools or training

Customer accessible areas will not contain
safety hazards.

Maintenance Features

The customer is responsible for performing
problem determination and attempting
recovery using problem determination
procedures (PDP)

If the customer requires IBM involvement,
he may relay error messages and/or error
log data to the CE to aid additional problem
determination or fault isolation.