

HP 3000 Computer Systems



When performance must be measured by results

Configuration Guide for
Re-Marketed Systems Series 30R/33R, IIIR

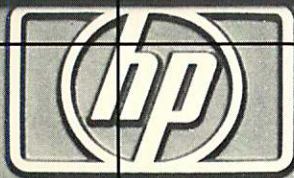
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HP 3000 Computer Systems Configuration Guide for Re-Marketed Systems Series 30R/33R, IIIR



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Introduction

This Configuration Guide is designed to aid Hewlett-Packard Sales Representatives in working with customers purchasing Re-Marketed systems or upgrading their Re-Marketed system(s) to larger, more powerful HP 3000 systems. This guide contains configuration instructions for the Series 30R/33R, and Series IIIR. It should be used in conjunction with the HP 3000 Computer Systems *Product Information Guide* and the *Price Guide*.

The Configuration Guide contains guidelines for configuring HP 3000 Re-Marketed systems. It allows a determination to be made about whether or not the configuration is achievable.

Information on upgrades available for the Series 30R/33R, and Series IIIR is also included.

Hardware Comparisons

Features	Series 3xR (Series 30R or 33R)	Series IIIR
Central Processing Unit	214 firmware instructions	209 firmware instructions
Fault Control Semiconductor Memory	512 Kb standard (1 Mb maximum)	512 Kb standard (2 Mb maximum)
I/O Channel for Discs	General I/O Channel (GIC) Up to 8 Disc Drives 7906/7920/7925/7935H****	Selector Channel Up to 8 7920/7925 Disc Drives and one 7935H***
Terminals (Point-to-point, Multipoint, System Console and DSN/DS virtual terminals)	Up to 48*	Up to 96*
Synchronous Communications Lines**	Up to 3 optional for Series 30R Up to 7 optional for Series 33R	Up to 7 optional
Magnetic Tape	Up to four 1600 bpi and one 1600/6250 bpi drives available	Up to eight 800 or 1600 bpi and one 1600/6250 bpi*** drives available
Flexible Disc	One 1.2 Mb flexible disc drive optional	Not available
System Line Printers	Up to 2 line printers	Up to 4 line printers
Remote Character Printers	Up to 4	Up to 4
HP 2680 Laser Printing System	Up to 2	Up to 2***
I/O Slots for Expansion	7 standard (7 maximum) for Series 30R 7 standard (20 maximum) for Series 33R Available for additional ADCCs (point- to-point terminals), printers, GICs (to support magnetic tape drives) or INPs (distributed communications boards)	9 standard (29 maximum) Available for additional ATCs (point-to- point terminals), printers, card reader, card reader/punch, paper tape reader, paper tape punch, magnetic tape or INPs (distributed communications boards)

*Use of both point-to-point and multipoint terminals is required to achieve a system configuration with the maximum number of all peripherals.

***Requires the HP-IB interface module 30341A.

**Refers to number of Intelligent Network Processors (INPs) supported, which provide communication links from the HP 3000 to other HP 3000s, IBM (compatible) mainframes, and multipoint terminals.

***Limit of one 7935H per system. 7935H cannot be only disc on system.

Peripheral Support Matrix

Peripherals supported on the Series 30R, Series 33R, and Series IIIR are shown in the chart. (Series 30R or Series 33R availability is indicated by 3xR.) The support of

hardware and software products is subject to change, however, with new releases of the MPE operating system.

Availability	Product No.	Description
Disc Drives		
3xR	7906M,S	20 Megabyte Cartridge Disc Drive
3xR IIIR	7920M,S	50 Megabyte Disc Drive
3xR IIIR	7925M,S	120 Megabyte Disc Drive
3xR IIIR	7925T	240 Megabyte Add-On Disc Storage System
3xR**** IIIR**	7935H	404 Megabyte Disc Drive
Flexible Disc Drives		
3xR	9895A-010	1.2 Megabyte Flexible Disc Drive
Magnetic Tape Drives		
IIIR	7970B	800 bpi Digital Magnetic Tape Drive
3xR IIIR	7970E	1600 bpi Digital Magnetic Tape Drive
3xR IIIR	7971A	Magnetic Tape Subsystem
3xR IIIR**	7976A	1600/6250 bpi Digital Magnetic Tape Drive
Terminals		
3xR IIIR	2382A	Office Display Terminal
3xR IIIR	2621A/B/P	Interactive Display Terminal
3xR IIIR	2622A	Display Terminal, Block Mode
3xR IIIR	2623A	Graphics Terminal
3xR IIIR	2624B	Data Entry Terminal
3xR IIIR	2626A/W	Display Station
3xR IIIR	2640x	Interactive Display Terminal
3xR* IIIR	2641A	APL Display Station
3xR IIIR	2642A	Interactive Workstation
3xR IIIR	2645A	Display Station
3xR IIIR	2647A/F	Intelligent Graphics Workstation
3xR IIIR	2648A	Graphics Workstation

Availability	Product No.	Description
Terminals (continued)		
3xR	2649E	System/Maintenance Console
3xR IIIR	2635B	Printing Terminal
3xR IIIR	3075A	Desk Top Data Capture Terminal
3xR IIIR	3076A	Wall Mounted Data Capture Terminal
3xR IIIR	3077A	Time Reporting Terminal
Printers		
3xR IIIR	2601A	40 cps Daisy-Wheel Printer
3xR IIIR	2608A	400 lpm Dot Matrix Line Printer
3xR IIIR	2617A	600 lpm Drum Line Printer
3xR IIIR	2619A	1000 lpm Chain Line Printer
3xR IIIR	2631B	180 cps Dot Matrix Character Printer
3xR IIIR**	2680A	Intelligent Page Printer
Plotters/Graphics		
3xR IIIR	7220C/T	Graphics Plotter
3xR IIIR	7221C/T	Graphics Plotter
3xR IIIR	7225B	Graphics Plotter
3xR IIIR	7240A	Plotter/Printer
3xR IIIR	7245B	Plotter/Printer
3xR IIIR	7580A	Drafting Plotter
3xR IIIR	9872C/T	Graphics Plotter
3xR IIIR	9111A***	Data Tablet
3xR IIIR	9874A***	Digitizer
IIIR	30126A	CalComp Plotter Interface Subsystem
3xR IIIR	7260A	Optical Mark Reader

*Supported as an HP 2645A (APL features are not supported.)

Support for foreign device users—There may be occasions when it is desired to interface a non-Hewlett-Packard product to an HP 3000. Support for the foreign device and system modifications required to drive it are the responsibility of the customer. If the HP 3000 exhibits problems resulting from the foreign device, the system must be reconfigured to its original Hewlett-Packard configuration and with the current supported version of the operating system before service can be rendered under the Customer Maintenance Agreement. Hewlett-Packard will not warrant compatibility of operating systems, user subsystems, or modifications to Hewlett-Packard hardware necessitated by design updates with any non-Hewlett-Packard product to an HP 3000.

**Requires the HP-IB Interface Module 30341A.

***These input devices may be used on an HP 3000 system only with the Interactive Design System (IDS/3000) software for designing characters and logos to be printed on the HP 2680A Intelligent Page Printer, or with user supplied software.

****7935H cannot be only disc on system.

Software Support Matrix

Software supported on the Series 30R, 33R, and Series IIIR are shown in the chart. (Series 30R or Series 33R availability is indicated by 3xR.) The support of

hardware and software products is subject to change, however, with new releases of the MPE operating system.

Availability	Product No.	Description
		Languages
3xR IIIR	32233A	COBOL II/3000 Compiler
3xR IIIR	32104A	RPG/3000 Compiler
3xR IIIR	32102B	FORTTRAN/3000 Compiler
3xR IIIR	32111A	BASIC/3000 Interpreter & Compiler
3xR IIIR	32106A	Pascal/3000 Compiler
IIIR	32105A	APL/3000 Language Subsystem
3xR IIIR	32100A	SPL/3000 Compiler
		Data Communications
3xR IIIR	32190A	DSN/DS Distributed Systems Software
3xR IIIR	30130E	DSN/RJE (2780/3780 Emulation)
3xR IIIR	32192A	DSN/MRJE Multileaving Remote Job Entry
3xR IIIR	32193A	DSN/MTS Multipoint Terminal Software
3xR IIIR	32229A	DSN/IMF Interactive Mainframe Facility
		Office Systems
3xR IIIR	36578A	TDP/3000 Text and Document Processor
3xR IIIR	32250A	DSG/3000 Decision Support Graphics
3xR IIIR	36580A	IFS/3000 Interactive Formatting System
3xR IIIR	36581A	IDS/3000 Interactive Design System
3xR IIIR	36576A	HPSLATE Fullscreen Interactive Word Processing
3xR IIIR	32120A	HPWORD Interactive Word Processing
		Information Management Systems
3xR IIIR	32244A	Dictionary/3000 Relational Data Dictionary
3xR IIIR	32245A	Report/3000 Report Writer
3xR IIIR	32246A	Inform/3000 User Report Generator
3xR IIIR	32247A	Transact/3000 Transaction Processing Language
3xR IIIR	32248A	Programmer Productivity Package

Availability	Product No.	Description
		Financial Application Software*
3xR IIIR	32286A	Accounts Payable/3000
3xR IIIR	32287A	Accounts Receivable/3000
3xR IIIR	32285A	General Ledger/3000
		Additional Application Software
3xR	32199A	Flexible Disccopy
3xR IIIR	32205B	Scientific Library
3xR IIIR	32238A	OPT/3000 On-Line Performance Tool
3xR IIIR	32900B	SIS/3000 Student Information System
3xR IIIR	32902A	CIS/3000 College Information System
		Manufacturing Systems
3xR IIIR	32260A	Materials Management/3000
3xR IIIR	32260UA	British Language Version Materials Management/3000
3xR IIIR	32260ZA	Italian Language Version Materials Management/3000
3xR IIIR	32260NA	Norwegian Language Version Materials Management/3000
3xR IIIR	32260SA	Swedish Language Version Materials Management/3000
3xR IIIR	32260EA	Spanish Language Version Materials Management/3000
3xR IIIR	32260DA	German Language Version Materials Management/3000
3xR IIIR	32260XA	Finnish Language Version Materials Management/3000
3xR IIIR	32260FA	French Language Version Materials Management/3000
3xR IIIR	32270A	Production Management/3000
3xR IIIR	32270UA	British Language Version Production Management/3000

*Available U.S. and Canada Only

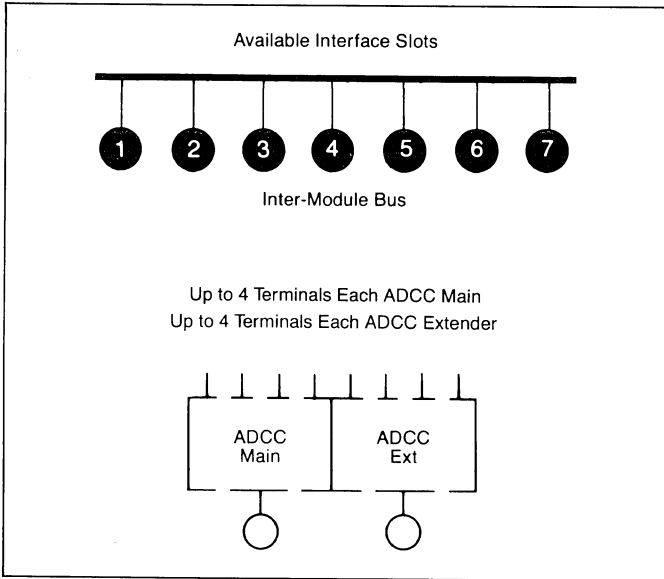
Configuration Diagram Overview

Overview

To aid in configuring an HP 3000 Series 30R, 33R, or IIIR system, diagrams are included in the following pages. By following the steps indicated, it is simple to plan a new system or add to an existing one.

Selection Options

When choosing options denoted by circles, be certain to write the number of the interface slot which the option will occupy in the open circle beside the selected option, then cross out the numbered circle connected to the IOP bus or Inter-Module Bus (IMB) to show that interface slot is no longer available. For example,

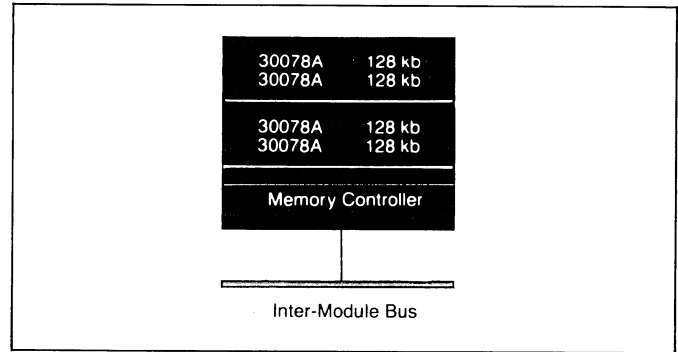


As a result, the options that have been chosen and the interface slots they occupy will be evident at a glance. **DO NOT EXCEED THE TOTAL NUMBER OF AVAILABLE INTERFACE SLOTS ON THE INTER-MODULE BUS OR IOP BUS.**

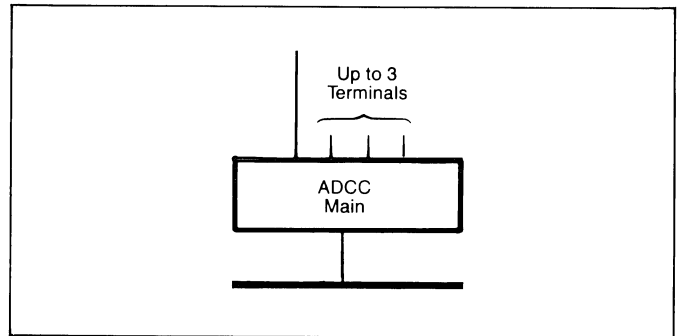
Devices identified with triangles, squares or hexagons will function only in the positions designated by matching geometric shapes. Hexagons denote non-IMB slots, which may be used for INPs and 2617/19A printer interfaces only.

The following apply to the Series 30R, 33R, and IIIR diagrams.

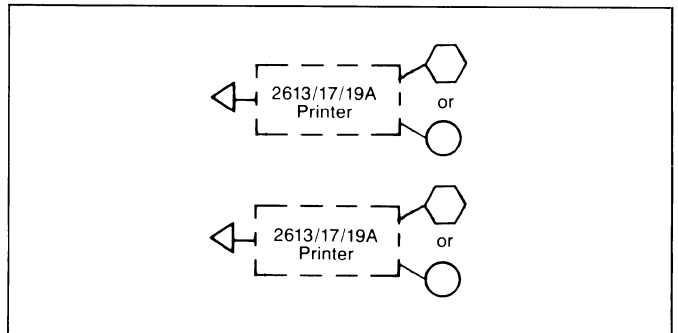
Equipment supplied with the System Processor Unit is in darkened boxes.



Equipment required, though ordered separately from System Processor Unit is in heavily outlined boxes.



Optional equipment is in white boxes outlined by dashed lines.



Configuration Guidelines

HP 3000 Series 30R

Interfacing Optional Equipment

Seven I/O slots are available for interfacing additional devices to the Series 30R. These I/O slots appear as numbered circles attached to the Series 30R Inter-Module Bus (IMB) on the following Series 30R Configuration Diagram. The seven I/O slots can be interfaced to any of the following devices:

Asynchronous Data Communication Controllers (ADCCs), General I/O Channels (GICs), Intelligent Network Processors (INPs), 2617A, or 2619A (denoted 2617/19A) printer interfaces. Up to three GICs are supported.

Connecting Additional Terminals

Point-to-Point terminals are connected to the Series 30R by means of the Asynchronous Data Communications Controllers (ADCCs). Each ADCC provides ports for four point-to-point terminals. There are two types of ADCCs: ADCC-Mains and ADCC-Extenders. ADCC-Mains and ADCC-Extenders must be configured and ordered in alternating fashion: ADCC-Main, ADCC-Extender, ADCC-Main, etc. The first ADCC-Main is required and must be ordered separately. This permits the connection of the System/Maintenance Console and up to three terminals (the 2649E System/Maintenance Console is required and is included). The Series 30R supports a maximum of eight ADCCs altogether (for a maximum of 32 point-to-point asynchronous terminals). 2601A daisy-wheel printers and 2631B dot matrix character printers can also be connected to ADCC terminal ports (see Printers).

To attach multipoint terminals, the Series 30R requires one copy of DSN/Multipoint Terminal Support (DSN/MTS), and, for each multidrop communication line, one Intelligent Network Processor (INP). The number of terminals that may be attached to each multidrop communication line is normally determined by response time considerations, but may be limited by the specific cabling option chosen. Up to 47 multipoint terminals total are supported per system, on one or more multidrop lines.

Up to 48 terminals total (including point-to-point, multipoint, system console, and DSN/DS virtual terminals) can be configured per system.

Disc Drives

The first disc drive attached to the Series 30R is called a "master" disc, which means that it contains a controller. One master disc is required with the Series 30R and is ordered separately from the System Processor Unit. 20 Mb (7906M), 50 Mb (7920M Re-Marketed or new), and 120 Mb (7925M Re-Marketed or new) master disc drives

are available. Additional 7906 or 792x drives are called "slave" disc drives, because they are attached to, and share the controller of, the master disc drive. Up to seven slave disc drives may be attached to the master disc drive: 20 Mb, 50 Mb, and 120 Mb slave disc drives are available. For the Series 30R the master disc can be located 2 meters from the system; a 2 meter cable is provided with the master disc. The 404 Mb (7935H) disc is also available although it cannot be the only disc on system. Limit one 7935H per system.

Magnetic Tape Drives

A 1600 bits per inch (bpi) magnetic tape drive is required for system backup and distribution of software updates, for Series 30R systems with more than 20 Mb disc storage.* (If the Series 30R has only 20 Mb disc storage, a 1.2 Mb flexible disc drive may be used instead of the magnetic tape drive. The flexible disc drive may also be used in addition to one or more magnetic tape drives.) The first magnetic tape drive attached to the Series 30R is called the "master", because it contains a built-in controller. The master tape drive must be attached to a dedicated General I/O Channel (GIC), which is ordered separately. Up to three additional slave magnetic tape drives may be attached to the master. The master magnetic tape drive can be located 6 meters from the system. A 6 meter cable is provided with the tape drive. In addition, a 6250 bpi magnetic tape drive may be attached to the Series 30R.

Printers

The Series 30R supports up to two system line printers. 2608A (400 lpm), 2617A (600 lpm), or 2619A (1000 lpm) printers are supported. The 2608A is attached to a GIC in the System Processor Unit; the 2617/19A printers attach to a GIC and use an interface which occupies one I/O slot in the Series 30R. This interface is ordered as option 301 to the 2617/19A printer. Each 2608A printer comes with a two-meter cable. Each HP 2617/19A printer with option 301 comes with a 15 meter (50 ft) cable.

In addition to system line printers which are attached to GICs, the Series 30R can support local or remote spoolable 2631B character printers through one or more ADCCs. When used as a local/remote spoolable printer, the 2631B is connected directly to an ADCC port via hardwired cable or modems. Up to four 2631B printers are supported on the Series 30R in this fashion (specify 2631B with option 331).

In addition to local/remote spoolable printers, the Series 30R can support 2601A daisy-wheel printers as terminals (non-spooled only) via ADCCs. The 2601A can be directly attached to an ADCC port via hardwired cable.

*If the Series 30R has a dedicated serial disc (7906S, 7920S, or 7925S) for backup, and a flexible disc drive for distribution of software updates, the magnetic tape drive is not required.

The 2631B and 2601A printers can also be attached as slave devices (non-spooled only) to Series 30R terminals, under the control of user-supplied application programs.

The Series 30R also supports the 2680A Intelligent Page Printer. Specify 2680A with option 301 for Series 30R cable. Up to two 2680A's may be attached to a GIC.

Data Communications

The Series 30R can support up to three Intelligent Network Processors (INPs). Each INP provides one communication line that may be used by DSN/DS, DSN/MTS, DSN/MRJE, DSN/RJE, DSN/IMF software. The same INP can be used (non-concurrently) by any of these software products. Each INP board requires one I/O slot and a connection to a GIC.

Flexible Disc Drive

One 1.2 Mb flexible disc drive can be used on the Series 30R. Order 9895A with option 010 to specify single master drive, and option 333 to specify Series 30R cable. The flexible disc drive attaches to a GIC in the Series 30R; a 2M (6.5 feet) cable is provided.

Memory Expansion

512 Kb of fault control memory is supplied with the System Processor Unit. System memory sizes of 768 Kb, and 1024 Kb are also supported. 30078A 128 Kb Memory Array boards or 32430CR opt 507 (expands memory to 1024 Kb, Re-Marketed) should be ordered to achieve desired memory size.

HP 3000 Series 33R

Interfacing Optional Equipment

The Series 33R System Processing Unit contains seven I/O slots for interfacing any of the following devices: Asynchronous Data Communications Controllers (ADCCs), General I/O Channels (GICs), Intelligent Network Processors (INPs), or 2617/19A Line Printer Interfaces. Up to four GICs are supported.

If more than seven additional I/O slots are required, the Series 33R Expansion Kit (30416A) may be ordered to provide an additional thirteen I/O slots. Of these thirteen slots, six are limited to supporting only INPs and 2617/19A Line Printer Interfaces.

Connecting Additional Terminals

The first Asynchronous Data Communications Controller-Main (ADCC-Main) is required and must be ordered separately. This permits the connection of the System/Maintenance Console and up to three terminals (the 2649E System/Maintenance Console is required and is included). Additional terminal capacity may be added in groups of four by adding ADCC-Mains and

Extenders. Always add an ADCC-Extender to an existing ADCC-Main before adding another ADCC-Main. The Series 33R supports a maximum of 32 point-to-point terminals, including console. 2601A daisy-wheel printers and 2631B dot matrix character printers can also be connected to ADCC terminal ports (see Printers).

To attach multipoint terminals, the Series 33R requires one copy of DSN/Multipoint Terminal Software (DSN/MTS) and, for each multidrop communication line, one Intelligent Network Processor (INP). The number of terminals that may be attached to each multidrop communication line is normally determined by response time considerations, but may be limited by the specific cabling option chosen. Up to 47 multipoint terminals total are supported per system, on one or more multidrop lines.

Up to 48 terminals total (including point-to-point, multipoint, system console, and DSN/DS virtual terminals) can be configured per system.

Disc Drives

The first disc drive attached to the Series 33R is called a "master" disc, which means that it contains a controller. One master disc is required with the Series 33R and is ordered separately from the System Processor Unit. 20 Mb (7906M), 50 Mb (7920M Re-Marketed or new), and 120 Mb (7925M Re-Marketed or new) master disc drives are available. Additional 7906 or 792x drives are called "slave" disc drives, because they are attached to, and share the controller of, the master disc drive. Up to seven slave disc drives may be attached to the master disc drive; 20 Mb, 50 Mb, and 120 Mb slave disc drives are available. For the Series 33R the master disc can be located 2 meters from the system; a 2 meter cable is provided with the master disc. The 404 Mb (7935H) is also available although it cannot be the only disc on system. Limit one 7935H per system.

Magnetic Tape Drives

A 1600 bits per inch (bpi) magnetic tape drive is required for system backup and distribution of software updates, for Series 33R systems with more than 20 Mb disc storage.* (If the Series 33R has only 20 Mb disc storage, a 1.2 Mb flexible disc drive may be used instead of the magnetic tape drive. The flexible disc drive may also be used in addition to one or more magnetic tape drives.) The first magnetic tape drive attached to the Series 33R is called the "master," because it contains a built-in controller. The master tape drive must be attached to a dedicated General I/O Channel (GIC). Up to three additional slave magnetic tape drives may be attached

*If the Series 33R has a dedicated serial disc (7906S, 7920S, or 7925S) for backup, and a flexible disc drive for distribution of software updates, the magnetic tape drive is not required.

to the master. The master magnetic tape drive can be located 6 meters from the system. A 6 meter cable is provided with the tape drive. In addition a 6250 bpi tape drive may be attached to the Series 33R.

Printers

The Series 33R supports up to two systems line printers. These two printers may consist of 2608A printers and 2617/19A printers. The 2608A attaches to a GIC in the system processing unit; the 2617/19A printer not only attaches to a GIC but also uses an interface which occupies one I/O slot in the Series 33R. This interface is ordered as option 302 to the 2617/19A printer. Each 2608A printer comes with a two-meter HP-IB cable (order 2608A option 333). One 2608A may be increased to four meters with an optional extender cable (31389B). Each 2617/19A printer with option 302 comes with a 15 meter (50 feet) cable.

In addition to system line printers which are attached to GICs, the Series 33R can support local or remote spoolable 2631B character printers through one or more ADCCs. When used as a local/remote spoolable printer, the 2631B is connected directly to an ADCC port via hardwired cable or modems. Up to four 2631B printers are supported on the Series 33R in this fashion (specify 2631B with option 331).

In addition to local/remote spoolable printers, the Series 33R can support 2601A daisy-wheel printers as terminals (non-spooled only) via ADCCs. The 2601A can be directly attached to an ADCC port via hardwired cable.

The 2631B and 2601A printers can also be attached as slave devices (non-spooled only) to Series 33R terminals, under the control of user-supplied application programs.

The Series 33R also supports the 2680A Intelligent Page Printer. Specify 2680A with option 302 for Series 33R cable. Up to two 2680A's may be attached to a GIC.

Data Communications

Up to seven Intelligent Network Processor (INP) boards are configurable, three in the first card cage and four in the second. Each INP provides one communication line that may be used by DSN/DS, DSN/MTS, DSN/MRJE, DSN/RJE, DSN/IMF software. The same INP can be used (non-concurrently) by any of these software products. Each INP board requires one I/O slot and a connection to a GIC.

Flexible Disc Drive

One 1.2 Mb flexible disc drive can be used on the Series 33R. Order 9895A with option 010 to specify single master drive, and option 333 to specify Series 33 cable. The flexible disc drive attaches to a GIC in the Series 33R; a 2M (6.5 feet) cable is provided with the drive.

Memory Expansion

512 Mb of fault control memory is supplied with the System Processor Unit. System memory sizes of 768 Kb, and 1024 Kb are also available. 30078A 128 Kb Memory Array boards or 32412CR opt 507 (expands memory to 1024 Kb, Re-Marketed) should be ordered to achieve desired memory size.

I/O Expansion

The system processor unit contains 7 I/O slots for additional devices. To obtain seven more IMB slots, as well as six additional non-IMB slots (for INPs and 2617/19A Printer Interfaces only), order the I/O Expansion Kit (30416A).

HP 3000 Series IIIR

Interfacing Optional Equipment

Spare interface slots (numbered "circles" connected to the IOP Bus) are available for additional products, and can be occupied by optional equipment identified with an attached "circle."

Connecting Additional Terminals

One Asynchronous Terminal Controller (ATC) is supplied. It permits the connection of up to 16 point-to-point terminals, including the system console.

Additional ATCs can be added, each interfacing up to 16 point-to-point terminals. Up to 48 terminals can be interfaced in the System Processor Unit bay, unless a 30360A Hardwired Serial Interface (HSI) is configured—then up to 32 terminals can be interfaced to the System Processor Unit. The addition of an extension I/O Cabinet (30235A) provides expansion for a total of 64 point-to-point terminals.

Alternatively, terminals may be added to the Series IIIR using DSN/Multipoint Terminal Software (DSN/MTS) and one or more Intelligent Network Processors (INP) or Synchronous Single Line Controllers (SSLC's). The number of terminals per line is normally determined by response time considerations but may be limited by the specific cabling option chosen. Up to 95 multipoint terminals total are supported per system, on one or more multi-drop lines.

Up to 96 terminals total (including point-to-point, multipoint, system console, and DSN/DS virtual terminals) are supported per system.

Disc Drive

One 50 Mb or 120 Mb "master" disc drive with controller is required, connected directly to the Central Data Bus through a disc interface to the selector channel. Up to seven "slave" 50 Mb or 120 Mb disc drives can be attached to this drive. One 404 Mb (7935H) is also available per system. It must be connected via the 30341A HP-IB interface module.

Magnetic Tape Units

One 1600 bpi or 800 bpi magnetic tape drive is required and is connected through a controller to the system. The supplied controller can also handle up to three extra drives of mixed densities (up to a total of four); when using mixed density drives, an 800 bpi master drive is recommended for configuration flexibility.

Additionally, a second controller may be ordered which can support up to four additional drives (5th through 8th on system) of mixed densities. When using mixed density drives, an 800 bpi drive is recommended. Each additional tape drive ordered can be supplied in a free-standing cabinet. See the 7970 and 7971A data sheets for further configuration details on extra drives.

The Series IIIR also supports the 7976A 1600/6250 bpi magnetic tape drive. Specify option 316 for a Series IIIR interface cable. An HP-IB Interface Module 30341A is also required. One 7976A may be attached to the Series IIIR via the HP-IB Interface Module.

Printers

A maximum of four 2608A, 2617A, and/or 2619A system line printers, in any combination, may be connected to any HP 3000 Series IIIR. Each printer requires its own 30209A controller. Each 2617/19A printer with option 300 comes with a 15 meter (50 feet) cable.

In addition to system line printers, the Series IIIR can support local or remote spoolable 2631B character printers through one or more ATCs. When used as a local/remote spoolable printer, the 2631B is connected directly to an ATC port via hardwired cable or modems. Up to four 2631B printers are supported on the Series IIIR in this fashion (specify 2631B with option 331).

In addition to local/remote spoolable printers, the Series IIIR can support 2601A daisy-wheel printers as terminals (non-spooled only) via ATCs. The 2601A can be directly attached to an ATC port via hardwired cable.

The 2631B and 2601A printers can also be attached as slave devices (non-spooled only) to Series IIIR terminals, under the control of user-supplied application programs.

The Series IIIR also supports the 2680A Intelligent Page Printer. Specify option 300 for a Series IIIR cable. An HP-IB Interface Module 30341A is also required. Up to two 2680A's may be attached to a Series IIIR via the HP-IB Interface Module.

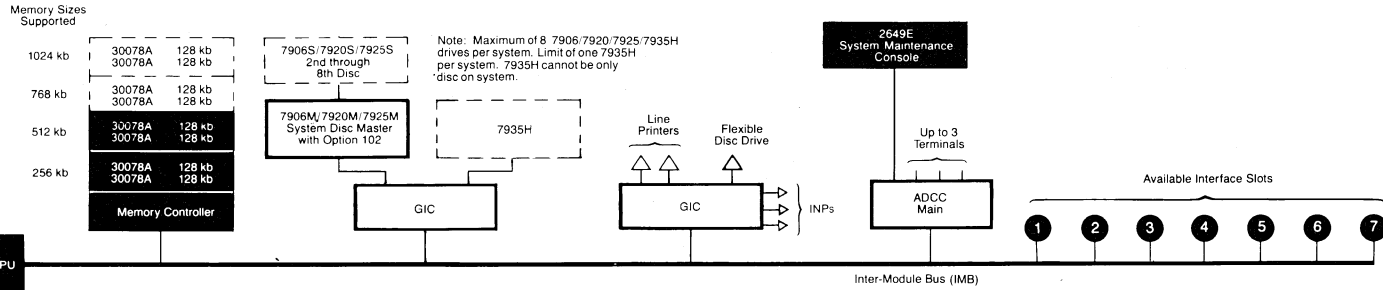
Data Communications

The HP 3000 Series IIIR supports up to two Hardwired Serial Interfaces (HSIs), and seven Intelligent Network Processors (INPs) and/or Synchronous Single Line Controllers (SSLCs) in any combination. See Terminal and System Communications sections for data communications hardware and software configuration guidelines.

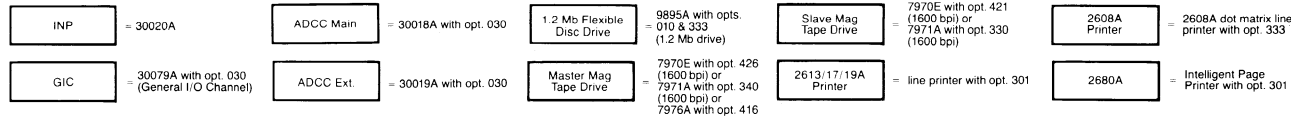
Memory Expansion

512 Kb of fault control memory is supplied with the system processor unit. Re-Marketed memory is available as 32435BR option 507 expands memory to 1024 Kb, 32435BR option 509 expands memory to 1536 Kb, and 32435BR option 511 expands memory to 2048 Kb. New memory is also available.

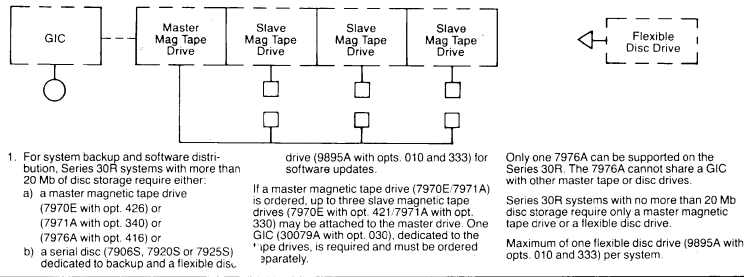
The 30418A memory expansion kit permits increasing memory capacity of installed HP 3000 Series IIIR systems from 1024 Kb to a maximum of 2048 Kb. The kit includes two 256 Kb memory boards with built-in fault control, memory controller, cables, and mounting hardware. Further expansion to the full 2048 Kb is accomplished by adding two more optional 30008B memory array boards.



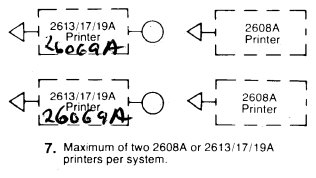
KEY



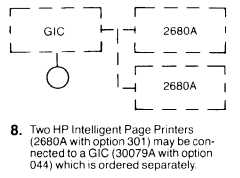
Magnetic Tape Drive and/or Flexible Disc Drive



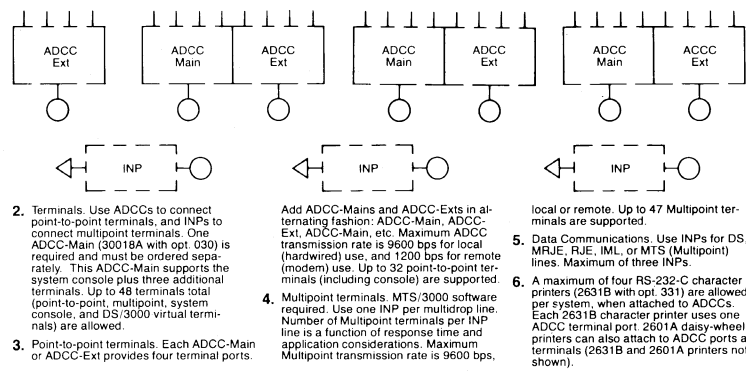
Printers



Intelligent Page Printer

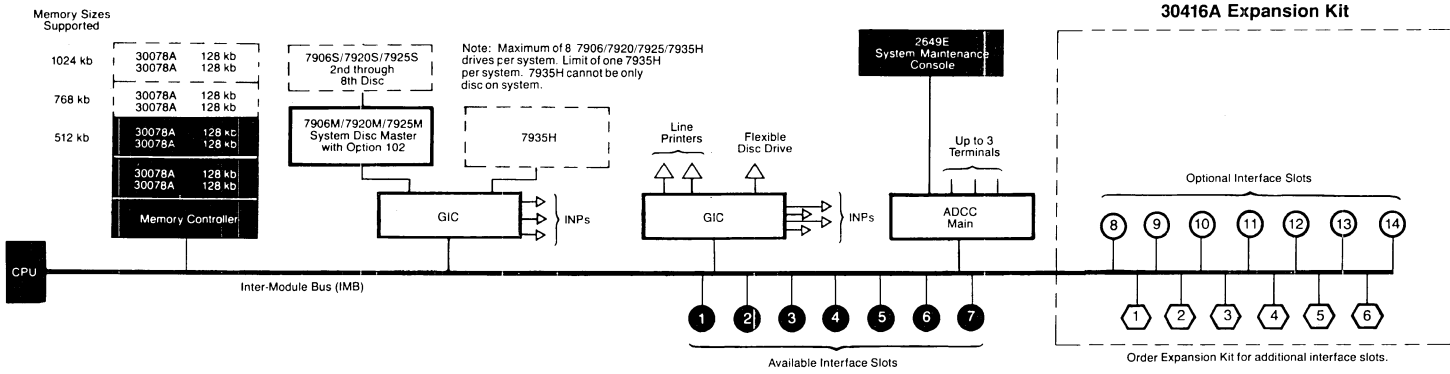


Data Communications



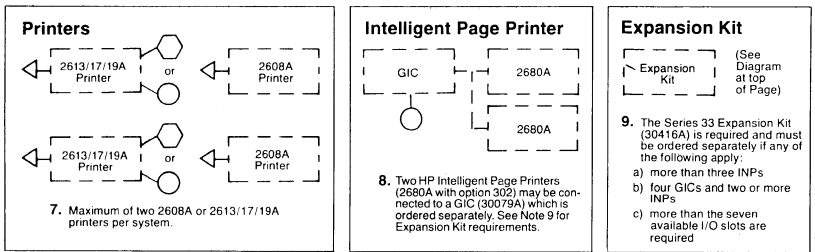
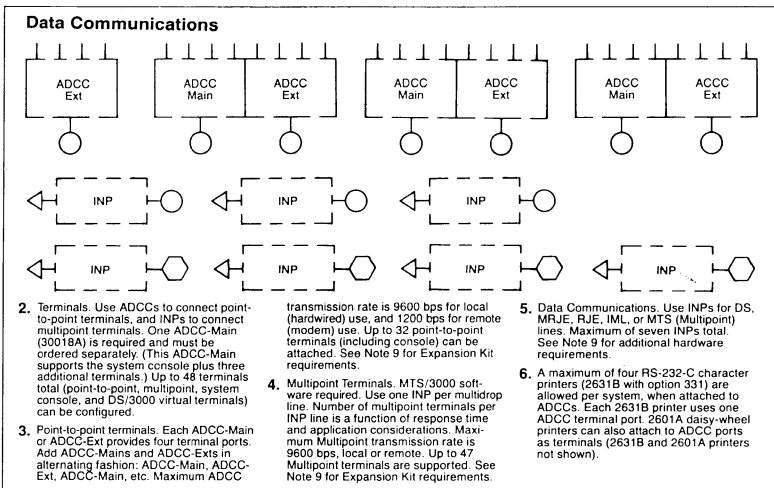
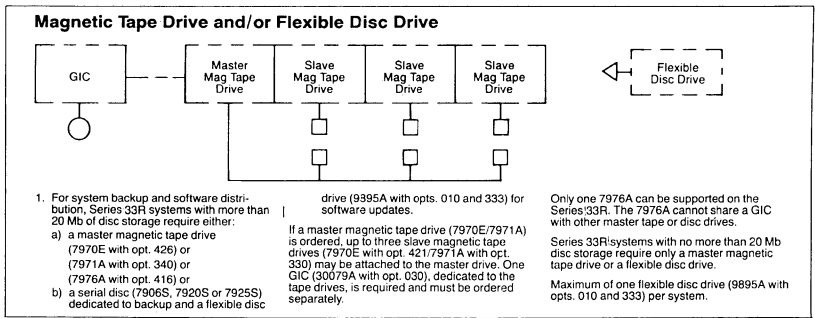
Supplied Required. Must be ordered separately Optional

Maximum Configuration Diagram For Series 33R (Model 32412CR)



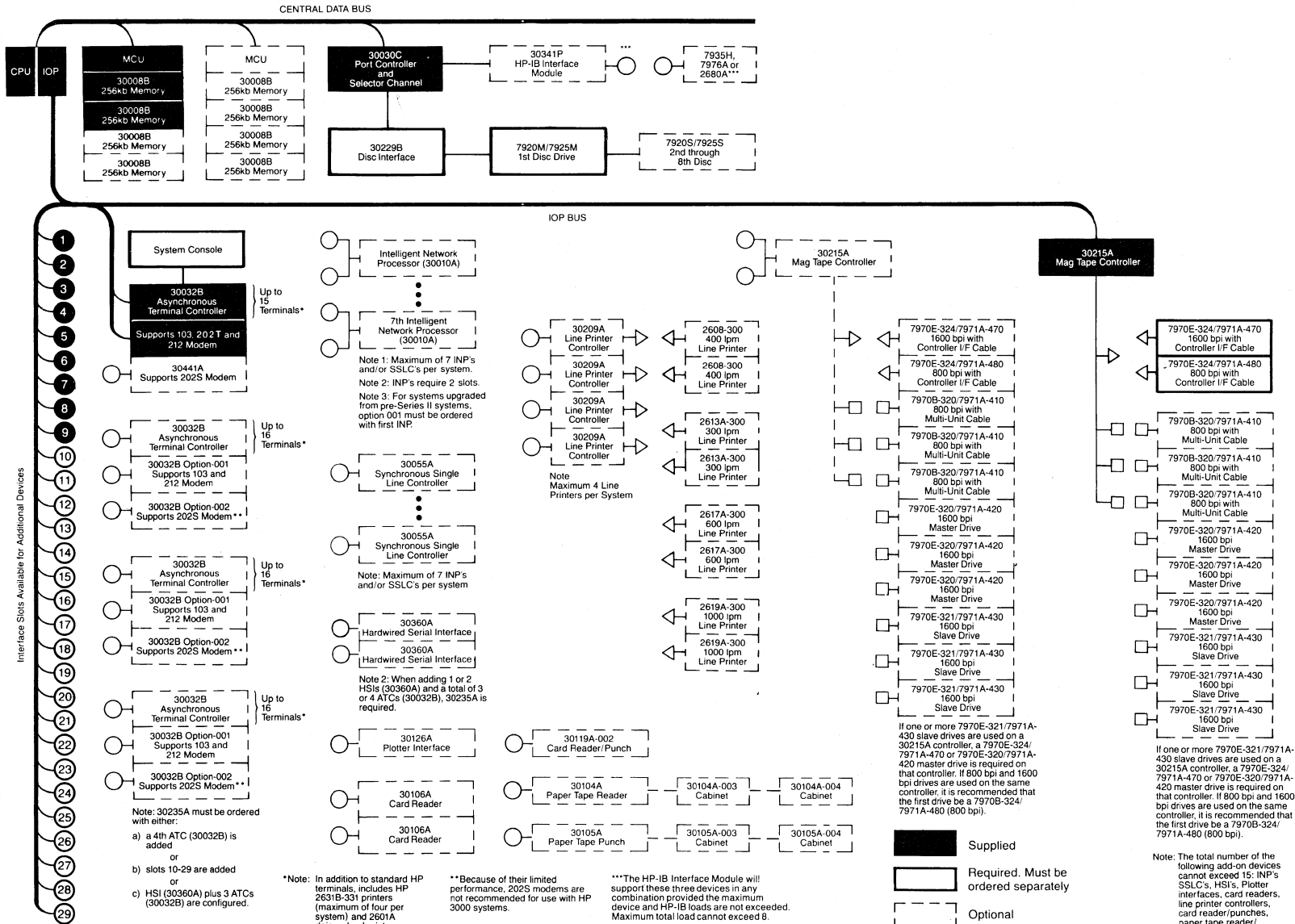
KEY

INP = 30020A	ADCC Main = 30018A (no options required)	1.2 Mb Flexible Disc Drive = 9895A with opts. 010, 333	Slave Mag Tape Drive = 7970E with opt. 421 (1600 bpi) or 7971A with opt. 330 (1600 bpi)	2608A Printer = 2608A dot matrix line printer with opt. 333
GIC = 30079A (no options required) (General I/O Channel)	ADCC Ext. = 30019A (no options required)	Master Mag Tape Drive = 7970E with opt. 426 (1600 bpi) or 7971A with opt. 340 (1600 bpi) or 7976A with opt. 416	2613/17/19A Printer = 2613A, 2617A, or 2619A line printer with opt. 302	2680A = 2680A Intelligent Page Printer with option 302



Supplied (solid box) Required, Must be ordered separately (dashed box) Optional (dotted box)

Maximum Configuration Diagram for Series IIIR System (Model 32435BR)



Interface Slots Available for Additional Devices

Note: 30235A must be ordered with either:
 a) a 4th ATC (30032B) is added
 or
 b) slots 10-29 are added
 or
 c) HSI (30360A) plus 3 ATCs (30032B) are configured.

*Note: In addition to standard HP terminals, includes HP 2631B-331 printers (maximum of four per system) and 2601A daisy-wheel printers.

**Because of their limited performance, 2025 modems are not recommended for use with HP 3000 systems.

***The HP-IB Interface Module will support these three devices in any combination provided the maximum device and HP-IB loads are not exceeded. Maximum total load cannot exceed 8.

If one or more 7970E-321/7971A-430 slave drives are used on a 30215A controller, a 7970E-324/7971A-470 or 7970E-320/7971A-420 master drive is required on that controller. If 800 bpi and 1600 bpi drives are used on the same controller, it is recommended that the first drive be a 7970B-324/7971A-480 (800 bpi).

Note: The total number of the following add-on devices cannot exceed 15: INP's, SSLC's, HSI's, Plotter interfaces, card readers, line printer controllers, card reader/punches, paper tape reader/punches, magnetic tape controllers.

Note 1: Maximum of 7 INP's and/or SSLC's per system.
 Note 2: INP's require 2 slots.
 Note 3: For systems upgraded from pre-Series II systems, option 001 must be ordered with first INP.

Note 2: When adding 1 or 2 HSI's (30360A) and a total of 3 or 4 ATCs (30032B), 30235A is required.

Note: Maximum 4 Line Printers per System

Note: Maximum of 7 INP's and/or SSLC's per system

Upgrades for Series 30R/33R, IIIR

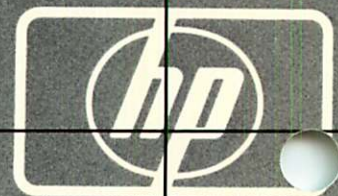
A range of upgrade paths are available from all Re-Marketed HP 3000 Systems to more powerful HP 3000's. The following upgrade alternatives are currently available:

From:	HP 3000 Upgrade Paths		
	Series 40	Series 44	Series 64
Series 30R	X	X	X
Series 33R	X	X	X
Series IIIR		X	X

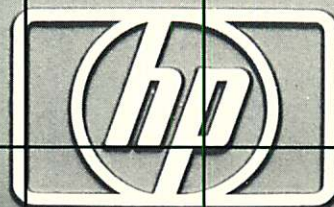
Ordering Upgrades

How to Order an Upgrade for Series 30R/33R, IIIR

Please refer to the HP 3000 Computer Systems *Configuration Guide* (5953-0664) Section 2 for ordering information. Use return credit option 608 (Series 30C/U) for Series 30R. Use return credit option 606 (Series 33C/U) for Series 33R. Use return credit option 603 (Series III w/256 Kb) or Option 613 (Series III w/256 Kb and HP-IB Interface) for Series IIIR. Please note that Re-Marketed Systems are eligible for the same return credits as the equivalent system purchased new.



H E W



3000

H E W L E T T



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