



12920B Asynchronous Multiplexer

The 12920B is an asynchronous multiplexer which provides interfacing for up to 16 communications devices at programmable data rates up to 2400 baud. Those devices may be any mix of hardwired terminals, 103 type data sets, or 202C type data sets.

Features

- 16 asynchronous communications channels per multiplexer
- EIA RS-232-C and CCITT V.24 Compatibility
- Programmable data rates from 57 baud through 2400 baud
- Programmable speed detection for up to six standard rates plus detection for the IBM 2741
- Programmable character length from 5 to 12 bits
- Automatic break detection
- Automatic answering
- Character assembly performed by hardware
- Supports up to eight 801 type automatic calling units
- Programmable split speed operation
- Full duplex, half duplex or echoplex transmission mode
- Programmable parity generation and checking

DESCRIPTION

The basic 12920 kit requires three computer I/O slots and consists of three interface cards, a connector panel, and cables. For devices which are hardwired directly to the multiplexer, the computer simulates a data set so that any terminal which can work directly with a data set will be able to work directly with the multiplexer.

The 12920 option 001 adds one more interface card and requires one additional I/O slot of the computer. Option 001 is required for use with 202 type data sets in order to increase the number of control and status lines. Dialers, terminals and data sets may be intermixed with the restriction that each dialer takes up two of the sixteen ports available on the multiplexer.

For data set applications, the multiplexer provides the signals necessary to operate up to sixteen 103- and/or 202-type data sets. The 103-type data sets, including the 103A, E, F, G, and 113A are full duplex, 300 baud asynchronous modems with optional reverse channels. Any combination of sixteen data sets and terminals can be connected and operated simultaneously. With the optional HP 12920B-001 Multiplexer added, 202-type data sets can also be connected and operated.

Product Specifications

CURRENT REQUIRED

Supply Voltage	Current Required, Amperes			
	Lower Data	Upper Data	Control	Total
+12	0.085	0.0	0.156	0.241
-12	0.120	0.121	0.236	0.477
+4.5	2.04	2.05	1.44	5.53
-2	0.125	0.031	0.102	0.258

Logic Voltage Levels

Between PCA and Computer:

Logic 1 (High): +2.4V dc, min.

Logic 0 (Low): +0.4V dc, max.

At Data Set Connectors,* Command and Status Lines:

Logic 1 (High): < +3V (ON)

Logic 0 (Low): < -3V (OFF)

Data Lines:*

Logic 1 (Low): < -3V (MARK)

Logic 0 (High): < +3V (SPACE)

*Refer to EIA Standard RS-232-C

BIT TRANSFER RATE (BAUD)

57 to 2400 bits per second, programmable

CHARACTER LENGTH

5 to 12 bits per character, programmable. Character size is the total number of bits (start plus data plus stop bits).



MODE OF COMMUNICATION

Asynchronous bit-serial

INTERRUPT TRIGGER

Leading, trailing, or both edges of the status line signal, programmable

DATA LINES

Two data lines to each of 16 channels

Data In: Received data (BB)

Data Out: Transmitted data (BA)

CONTROL LINES

Two control lines from each control PCA for each of 16 channels.

Command 1 (C1): Data Terminal Ready (CD)

Command 2 (C2): Request to Send (CA)

CD and CA are First Control, PCA.

Command 1 (C1): Supervisory Transmit (SA)

Command 2 (C2): Data Signal Rate Selector (CH/CI)

SA, CH/CI are Second Control, PCA.

STATUS LINES

Two status lines from each control PCA for each of 16 channels.

Status 1 (S1): Data Set Ready (CC)

Status 2 (S2): Received Line Signal Detector (CF)

CC and CF are First Control, PCA

Status 1 (S1): Supervisory Receive (SB)

Status 2 (S2): Received Line Signal Detector (CF)

SB and CF are First Control, PCA

NUMBER OF CHANNELS

16 channels for transmit and 16 for receive with external data sets or terminals. 5 channels for receive only are internal to interface for diagnostic purposes.

Product Support

HARDWARE SUPPLIED

HP 12920 Asynchronous Multiplexer

Description	Part Number
Data PCA, Upper Select Code	12920-60001
Data PCA, Lower Select Code	12920-60002
Data Cable Assembly	12921-60003
Control PCA	12922-60001
Control Cable Assembly	12922-60003
Connector Panel	30062-60002
Test Cable Assembly	30062-60003
HP 12920-001	
Control PCA	12922-60001
Control Cable Assembly	12922-60003

SOFTWARE SUPPLIED

Data board diagnostic	12920-16001
Control board diagnostic	12920-16002

DOCUMENTATION SUPPLIED

Reference and Application Manual (12920-90007)

Diagnostic Manual (12920-90009)

INSTALLATION

Before installing a multiplexer, interconnecting cables must be supplied by the user to connect data sets or terminals to the connector panel.

After mounting, connectors J0 through J15 are used for connecting the panel to data sets and/or terminals, while connectors J16 through J20 are used to connect the panel to interface PCAs in the computer.

The connector panel is normally installed at the rear of the computer system cabinet, on the rear vertical channels, and in a position convenient for interconnections.

The HP 12920B Asynchronous Multiplexer is fully supported by Hewlett-Packard. It is warranted to be free from defects for 90 days after installation.

ACCESSORY CABLES AVAILABLE

For Data Sets:	30062-60004	25 ft.
	30062-60007	50 ft.
For Automatic Dialers:	30062-60005	25 ft.
	30062-60008	50 ft.
Extender Cables:	30062-60006	25 ft.
	30062-60009	50 ft.
	30062-60012	100 ft.

In most cases, the cable supplied with a terminal, equipped to convert to a modem, will connect directly to a multiplexer panel or through an extension cable into the panel.

PANEL CONNECTORS

The sixteen connectors to the data set or devices are the standard EIA 232, 25 pin "cinch" connectors.

MULTIPLEXER PANEL CONNECTOR

PIN NO.	MULTIPLEXER DESIGNATION	EIA DESIGNATION
2	Data In	Received Data (BB)
3	Data Out	Transmitted Data (BA)
4	Status 2	Signal Detector (CF)
6	Command 1	Data Terminal Ready (CD)
7	Common Return	Common Return (AB)
8	Command 2	Request to Send (CA)
11	Status 1*	Supervisory Receive (SB)
12	Command 1*	Supervisory Transmit (SA)
20	Status 1	Data Set Ready (CC)
22	Status 2*	Clear to Send (CB)
23	Command 2*	Frequency Select (CH)

NOTES: *One cable required for each input/output channel.
* The asterisk indicates signals required for 202-type data sets connected to the second (optional) control card only.*

ORDERING INFORMATION

HP 12920B	16 Channel Asynchronous Multiplexer for hardwired devices or 103 type data sets.
HP 12920B-001	Add capability to support 202 type data sets.
HP 12920B-421	Add DOS-III Physical Driver, DVR 73
HP 12922A	Field upgrade to support 202 type data sets.



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1501 Page Mill Road, Palo Alto, California 94304