Multiplexer Configuration

The Model 9016-XYY Disk Multiplexer permits a single disk unit to be shared by as many as 16 separate systems. The Model 9016-XYY configuration is a modified combination of the Model 2224 (channel scan) and the Model 2230 MXA/B (daisy-chain) multiplexers offered by Wang. In the 9016-XYY configuration, the 2224 is replaced by the Model 9016C, the 2230 MXA is modified to a 9016A and the 2230 MXB is modified to a 9016B. Via the Model 9016-XYY, any System 2200 with a disk capability (in particular workstations) can be multiplexed to any 2200 series hard disk unit (Models 2230, 2260B or 2260B-2).

The Model 9016-XYY Disk Multiplexer is comprised of three segments — the 9016C, 9016A, and the 9016B. The Model 9016C segment of the 9016-XYY consists of a compact chassis housing channel scan multiplexer electronics and a power supply. Channel connections on the front panel of the chassis provide for the attachment of a disk I/O cable and for up to four multiplexer cables to the 9016A controller boards. Standard 12foot (3.7m) multiplexer connector cables are provided to connect each 9016A controller to the 9016C chassis.

The Model 9016A multiplexer controller board(s) installs directly into a master CPU which serves as the intermediate link between the 9016C and the participating systems. The participating systems each must contain a 9016B multiplexer board. (In the 2200 Workstation, the 9016B boards are "built-in".) The systems are "chained" together by connecting the 9016B "slave" boards in each pair of CPU's with the special connector cables provided. The "master" CPU (i.e., the CPU with the 9016A boards(s)) must be located at the end of each chain, as it connects directly to the 9016C multiplexer. The 9016C is the only system directly connected to the disk. See Figure 1 for typical system configurations.

Multiplexer Operation

The 9016-XYY configuration allocates disk time to multiple systems in a manner which enables all systems (including the "master' CPU's) to have access to the disk. All access to the disk is controlled by the 9016C, which polls the "master" CPU's in a continuous loop. Each "master" CPU, via the 9016A board(s), sequentially polls the CPU's in its chain. Participating systems are polled on an "equal priority" basis until a system is detected attempting to access the disk. At that point, control of the disk is passed to the inquiring system, which is permitted to execute a single disk statement or command. (Multi-sector transfers may be made by a single statement.) When execution of a single disk operation is completed, disk control reverts to the 9016C, which along with the 9016A, resumes the sequential polling of the system.
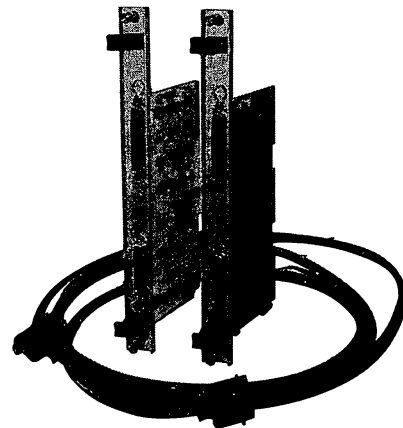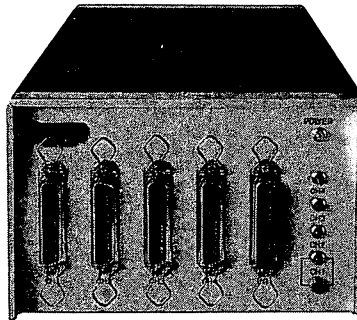
MODEL 9016-XYY DISK MULTIPLEXER

DATA SHEET

Programmable Hog Mode

Some disk operations, such as the on-line updating of a commonly shared file, require that one system have a period of exclusive and uninterrupted access to the disk. For such operations, a programmable "Hog Mode" feature is provided. In Hog Mode, one system temporarily monopolizes the disk, locking out all other systems. Critical file maintenance operations may then be carried out by the privileged system without fear of interruption.

Extension Cables

Extension cables are available in lengths of 50, 100, and 200 feet. The extension cable is coupled with a standard connector cable to permit an increased distance between successive systems in the chain only. Extension cables may be coupled together. The maximum distance between the "master" CPU and the last CPU in a four-station configuration is 536 feet (two 200-foot and one 100-foot extension cables). The distance between the 9016A and the 9016C, and the distance between the 9016C and the disk, cannot be extended. The maximum distance in each case is 12 feet.
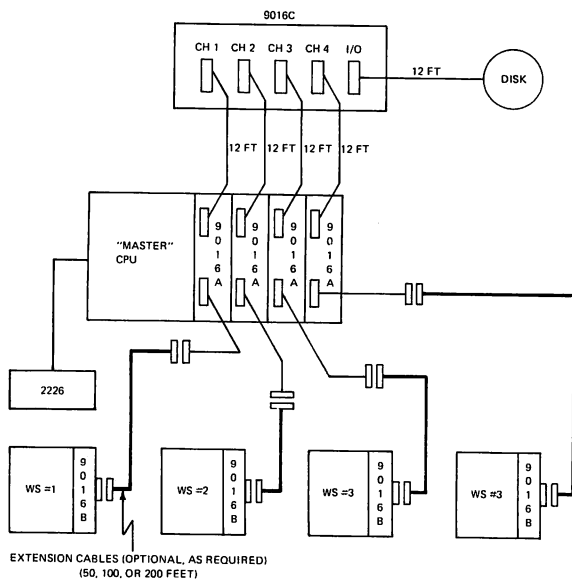
SPECIFICATIONS

Standard Equipment

One 9016C multiplexer chassis, plus the required number of 9016A multiplexer controller boards and 9016B slave controller boards. Standard 12-foot (3.7m) connector cables accompany each 9016B board. Each cable is equipped with a 36-pin and 50-pin Amphenol plugs. Also, the required number of 36-pin to 36-pin 12-foot cables for connection between 9016A and 9016C are provided. "T" Connectors and extension cables for workstations are not included.

Optional Equipment

Extension cables of 50, 100, and 200 feet (15.33, 30.5, and 61 meters) for 9016A to 9016B or 9016B to 9016B extensions.

Power Requirements

9016C multiplexer chassis
Voltage: 115 or 230 VAC ± 10%
         50 or 60 Hz ± 1 cps
Power: 25 watts
9016A and 9016B boards
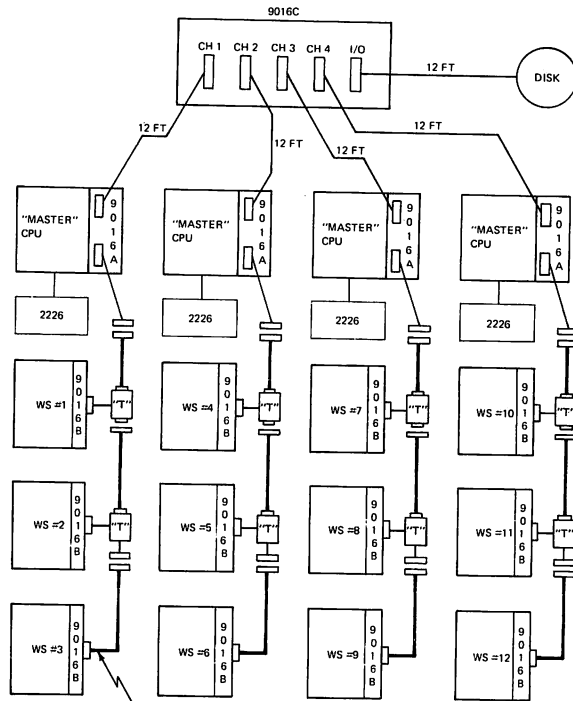Operates from CPU Power Supply

Operating Environment

50° F to 90° F (10° C to 32° C)
30% to 80% relative humidity, non-condensing.

Dimensions of 9016C Chassis

Height	5.5 in. (13.8 cm)
Width	8.0 in. (20.0 cm)
Length	11.5 in. (28.8 cm)

Weight of 9016C Chassis

10 lb. (5 kg)

EXTENSION CABLES (OPTIONAL, AS REQUIRED)
(50, 100, OR 200 FEET)

EXTENSION CABLES (OPTIONAL, AS REQUIRED)
(50, 100, OR 200 FEET)

ORDERING SPECIFICATIONS

A disk multiplexer configuration capable of allocating disk time among several independent systems. It must be possible to multiplex any Wang System 2200 which has a disk capability with any 2200 series disk unit. The multiplexer configuration must be capable of interfacing a maximum of 16 separate systems to the same disk. Extension cables must be available in increments of 50, 100, and 200 feet (15.3, 30.5, and 61 meters) to supplement the standard 12-foot (3.7m) connector cables.

When ordering the 9016-XYY, the XYY suffix must be specified. The XYY suffix is designated as follows:

X — The number of 9016A boards in the system. The number must be 1, 2, 3 or 4 only.

YY — The number of workstations which are to be daisy chained. This can be a number from 01 to 12.

e.g., consider the case in which seven (7) CPU's are required in the overall system. A typical configuration would indicate two (2) 2200T CPU's, each having a 9016A board. From each 9016A board, workstations may be daisy chained — two from one 9016A and three from the other. The 9016-XYY designation for this configuration would be 9016-205, since these are two (2) channels containing 9016A's and five (5) modified workstations.

Obviously, there are a number of possibilities for a given configuration. In the above example, a Model 9016-206 designation could have been used instead. In this case, the two 9016A boards would both reside in a single 2200 CPU and each 9016A would have three (3) modified workstations daisy chained from it.

Wang Laboratories reserves the right to change specifications without prior notice.

WANG LABORATORIES, INC.