3888 Specifications

Dimensions
Height: 71.75 inches (182 cm)
Width: 44.5 inches (113 cm)
Depth: 32 inches (81.3 cm)
Weight: 800 lbs (362.8 kg)

Service Clearances
Front: 39 inches (99 cm)
Rear: 35 inches (89 cm)
Sides: no access required.

Cable Lengths
Power Cord 4.57 m (15 ft) for 60 Hz;
4.57 m (15 ft) and 7.62 m (25 ft) for 50 Hz
EPO 121.9 m (400 ft) maximum
I/O Channel A Storage Director can be attached directly to a system channel or daisy-chained with another Storage Control Unit. Cable length specifications for the 3680 attachment are:

- Between one SD and a block multiplexor channel, maximum length is 85 m (280 ft).
- Between one SD and a 303X, 3042 Model 2, 3082, a 4331 Model 2, or 4341, the maximum length is 121 m (400 ft). For attachment of one SD with Speed Matching Buffer, maximum length is 107 m (350 ft).
- The maximum length for all other channels is 78 m (255 ft).
- Reduce these maximum lengths by 5 m (15 ft) for each intervening SCU or SD connected between the 3888 SD and the channel.

Environmental Conditions

Operating

Temperature: 60° to 90°F (16° to 32°C)
Relative Humidity: 20% to 80%
Maximum Wet Bulb: 78°F (26°C)
Temperature Variation: 5°F/hour (2.7°C/hour)

Non-Operating

Temperature: 50° to 120°F (10° to 49°C)
Relative Humidity: 10% to 90%
Maximum Wet Bulb: 78°F (26°C)
Temperature Variation: No condensation

Power Requirements

	60Hz	50Hz
Voltage	208/230 ± 10%	200/380/400/415 ± 10%
Frequency	60 ± .5 Hz	50 ± .5 Hz
Phase	Three phase	Three phase
Branch service	15 amperes	15 amperes

Maximum Heat Dissipation
4300 BTU

Power
1.4 KVA

Memorex Corporation
San Tomas at Central Expressway
Santa Clara, California 95052

MEMOREX
A Burroughs Company

3888

MEMOREX

Dual Director
Storage Control Unit

The 3888 microprocessor based architecture supports the 3680's exclusive enhanced protocol allowing throughput improvements at the string level.

The Memorex© 3888 Dual Director Storage Control Unit is one of the most technologically advanced disc control units available today. The 3888 Storage Control unit together with your choice of Memorex DASD will provide a disc subsystem with superior throughput and outstanding reliability under the most exacting user requirements.

Standard Features

• Configuration Flexibility

The Memorex 3888 Storage Control unit offers complete flexibility in your selection of Memorex DASD. Each of the two independent storage directors can support up to 32 actuators, thus each director can control up to 2 full strings of 3680 or up to 4 full strings of other Memorex disc storage devices (3670, 3675, 3650, 3652, 3695).

The Memorex 3888 utilizes a unique *single model architecture* which will even allow the change of the Memorex disc storage device type supported without any changes to the hardware. The 3888 can provide the functional equivalent of the IBM 3380 model 1, 2, or 3 with comparable models changed by simply loading new microcode via one of the two flexible disc drives in the 3888.

• Attachment Flexibility

The Memorex 3888 Storage Control unit will interface with the IBM MVS/XA and VM/XA operating systems as well as other appropriate IBM operating systems which support 3380 disc storage device attachment. When the 3888 is controlling other Memorex disc storage devices it will interface the appropriate IBM operating system which allows the attachment of IBM 3330-I and II, 3350, and 3375.

The Memorex 3888 Storage Control unit can attach to the data streaming channels on the IBM 308X series, the 303X series, the 4341, 4361, and 4381 series, and any other equivalent plug compatible central processing units. The Memorex 3888 Storage Control unit can attach to block multiplexor channels on the 303X series, 370 series, and the 4331 and 4341 series (speed matching buffer option is required for controlling 3680 direct storage devices).

• Superior Throughput

The 3888 Storage Control unit fully supports the performance improvement incorporated via the Memorex *MAPS* (Maximum Availability Path Selection) system for the 3680 and IDI on the 3650/52. In addition to supporting the MAPS dual porting capability the 3888 microprocessor based architecture supports the 3680 exclusive *enhanced protocol.* This enhanced protocol reduces the overhead associated with the communications between the microprocessor in the storage director and the microprocessor in the Memorex 3683 MAPS string controller. This enhanced protocol will result in throughput improvements at the string level.

• Outstanding Reliability

The 3888 Storage Control unit incorporates numerous reliability enhancements in its design including LSI circuitry, independently powered dual directors, and improved reliability and validation testing. Not only does the 3888 incorporate reliability into its design, Memorex has incorporated reliability enhancements into its manufacture including the utilization of advanced statistical quality control techniques and the use of only fully burned-in components.

• Maximum Availability

In addition to reliability improvements, the 3888 Storage Control unit has been designed to provide maximum availability for the disc subsystem. The 3888 contains 2 independently powered storage directors which, depending on the channel switching incorporated, could allow full access to your disc subsystem if a failure occurred in one of the directors. Not only are the storage directors redundant, Memorex has included redundant flexible disc drives for changing microcode or maintenance testing.

• Improved Maintainability

Each of the directors incorporates a microprocessor which can execute diagnostic routines on the director itself as well as the entire subsystem. The results from these maintenance routines can be stored, on 1 of the 2 flexible disc drives, for subsequent use by Memorex Customer Engineering personnel utilizing the unique *Portable Maintenance Terminal.* This new tool can interpret the results of the maintenance diagnostic routines as well as running additional diagnostics while the disc subsystem is available for processing via the other director in the 3888.

All of the functions of the Portable Maintenance Terminal can be emulated from a *Remote Support Center* utilizing the RS232 interface standard in the 3888. Results of diagnostics run on the 3888 can be transferred to the Remote Support Center for analysis and recommended action. The implementation of the Remote Support Center enables Customer Engineers to be dispatched to a site with a better understanding of the failure as well as the likely failed component in hand.

The Memorex Customer Engineer also has a sophisticated subsystem diagnostic test routine which can be run on the central processing unit (in a non-dedicated running mode).

Optional Features

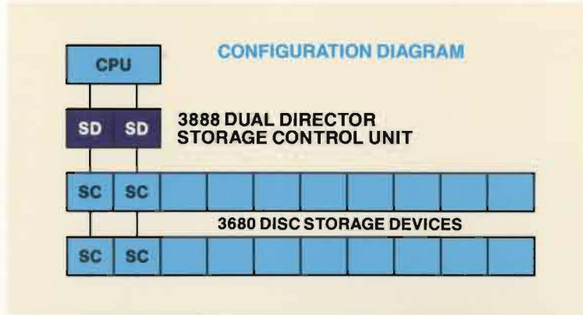
• Speed Matching Buffer This option allows the attachment of 3680 disc storage devices to the block multiplexor channels with data transfer rates of less than 3.0 megabytes per second. The speed matching buffer has the flexibility to run at any data transfer rate between 1.5 and 3.0 megabytes per second.

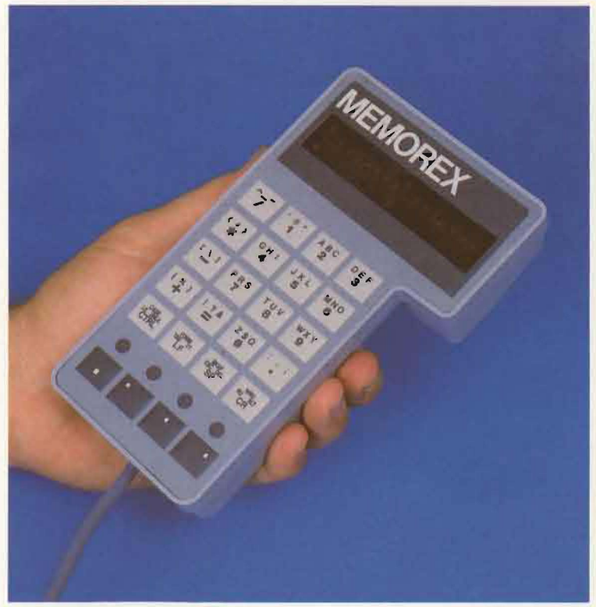
• Remote Switch This option provides the relocation of the enable/disable switch to a configuration panel in a remote location.

• 2 Channel Switch This feature allows access from 2 channels from the same or different central processing units to each director. This provides a total of up to 4 channels have access to the 3888, 2 per director.

• 4 Channel Switch This feature allows access from 4 channels from the same or different central processing units to each director. This provides a total of up to 8 channels, 4 per director, to access the 3888.

• 8 Channel Switch This feature allows access from 8 channels from the same or different central processing units to each of the directors. This option provides full access to both directors by all 8 channels.





One of the 3888's unique features is a hand-held portable maintenance terminal (PMT). This terminal is used by the Memorex Customer Engineer to monitor performance and diagnose problems stored in the 3888's microprocessor. The PMT can also be used by the Customer Engineer with the other subsystem components, the 3680 and 3683.