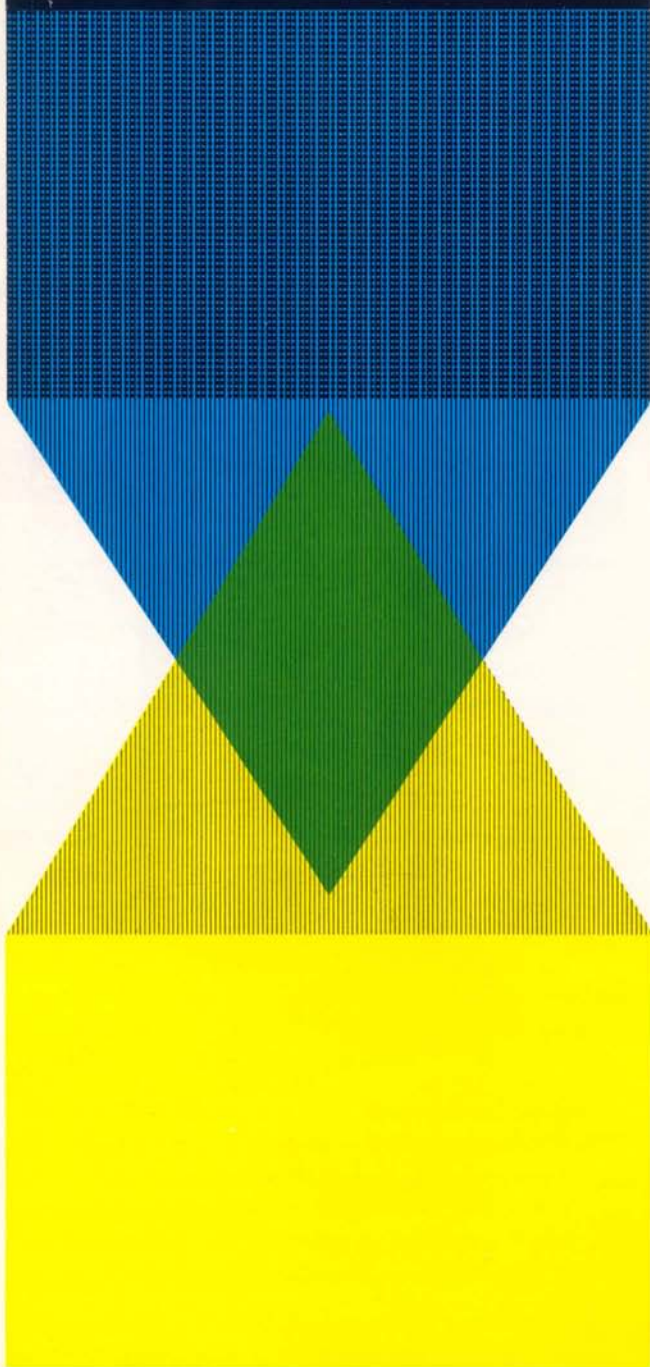


**IBM 2848 Display Control  
IBM 2260 Display Station**



**IBM field engineering announcement**



*IBM 2848 Display Control (design model)*



*IBM 2260 Display Station (design model)*

The IBM 2848 Display Control (DC) and the IBM 2260 Display Station (DS) combine to form a display group that permits the use of the highly desirable visual I/O concept in applications where cost-usage considerations previously made its incorporation impractical.

The IBM 2848 DC provides the required interface with the host System/360 and co-ordinates the operation of the IBM 2260 DS's associated with the DC. The 2848 DC is capable of accepting and processing simultaneous inquiry message inputs from multiple DS's.

The 2848 DC can be equipped with one of three available interface adapters. One, the channel adapter, establishes a direct local interface with a System/360 selector or multiplexor channel. The others, data set adapters, enable the 2848 DC to interface with either a Western Electric 202D (1200 bps) or 201B (2400 bps) data set or its equivalent and to communicate with the host system via data sets, telephone lines, and a 2701 Terminal Adapter Type III. Thus, the latter interface concept permits the 2848-2260 display group to operate in a location remote from the host System/360.

The IBM 2260 DS provides the CRT display on which operator-initiated inquiry messages and data outputs from the host system are displayed via the 2848 DC. Optional features (keyboards) can be selected, thus extending DS operation to include man-to-machine communication. The CRT display is designed for maximum legibility in well-lit (up to 50 foot-candles) environments, and is presented in a 4-inch by 9-inch area on the CRT face. Sixty-four different symbols can be displayed on the 2260 DS CRT. Sixty symbols are used for data transfer across the display group interface. The remaining symbols, such as the cursor, are used to display control functions.

The IBM 2848 DC and IBM 2260 DS model and feature variations permit the assembly of display groups that range from basic groups to groups with extensive capacities and capabilities. The 2848 DC and 2260 DS equipments have the flexibility to permit the display group to be tailored to each user's requirements.

All IBM 2848/IBM 2260 display groups provide rapid access to data stored in the associated computer system

and make the data available as a visual display that can be read directly with minimum interpretation or special knowledge required. Similarly, display groups that are configured to include man-to-machine communication require minimum special operator skills of those entering data from the 2260 DS.

## IBM 2848 Display Control

The IBM 2848 Display Control contains the storage and control logic required to interface the 2848 with either a System/360 selector or multiplexor channel or with a communications data set. The IBM 2848 is capable of controlling multiple IBM 2260 Display Stations, operating as output-only or input-output devices.

The 2848 DC is available in three basic models: Models 1, 2, and 3. The models differ with respect to their display capabilities, as follows:

<i>Model number</i>	<i>Maximum number of 2260 DS's can be driven</i>	<i>Maximum display length</i>
1	24	Six rows of 40 characters each (240 characters total).
2	16	Twelve rows of 40 characters each (480 characters total).
3	8	Twelve rows of 80 characters each (960 characters total).

All 2848 DC models can be provided with special features that expand their display capabilities and provide the DC with special functional abilities, as follows:

- The ability to control an IBM 1053 Printer that provides a permanent record of display group data under either program or operator control.
- A nondestructive cursor (character entry and display position indicator and locator) that can be moved within the display area without disturbing or destroying the data displayed on the CRT of the 2260 DS.
- A line-addressing feature which enables the processor to select any one of the lines within the 2260 DS display during write operations.

## IBM 2260 Display Station

The basic IBM 2260 Display Station contains the CRT display used to present data transferred from the associated System/360 and processed within the 2848 DC. The data is presented in a 4-inch by 9-inch area on the CRT face. The basic display can operate with any model of the 2848 DC, including models that contain any combination of the special features available for the 2848. Thus, the 2260 DS can display the 240-character message of the 2848 Model 1 or the 960-character message of the 2848 Model 3 with equal efficiency and no modifications.

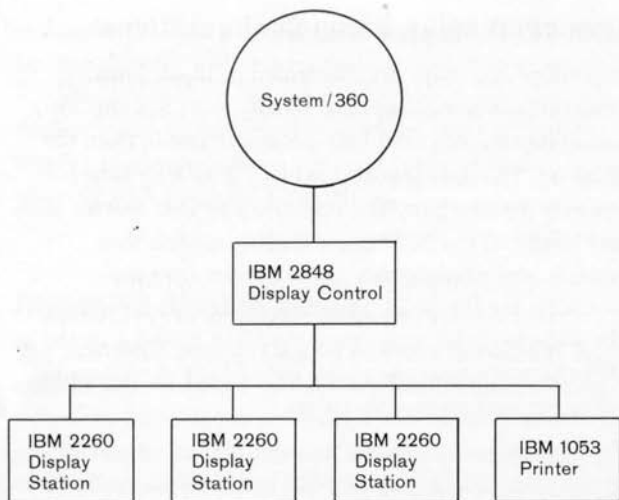
Optional features provide for the addition of an alphanumeric or numeric-only keyboard to the basic 2260 DS. This extends the capabilities of the 2260 DS to include man-to-machine communication, thus providing a complete visual I/O concept.

When an optional keyboard is included in the 2260 DS, input messages generated at the keyboard are displayed on the CRT as they are composed. This permits the operator to verify a message before it is transferred from the display group.

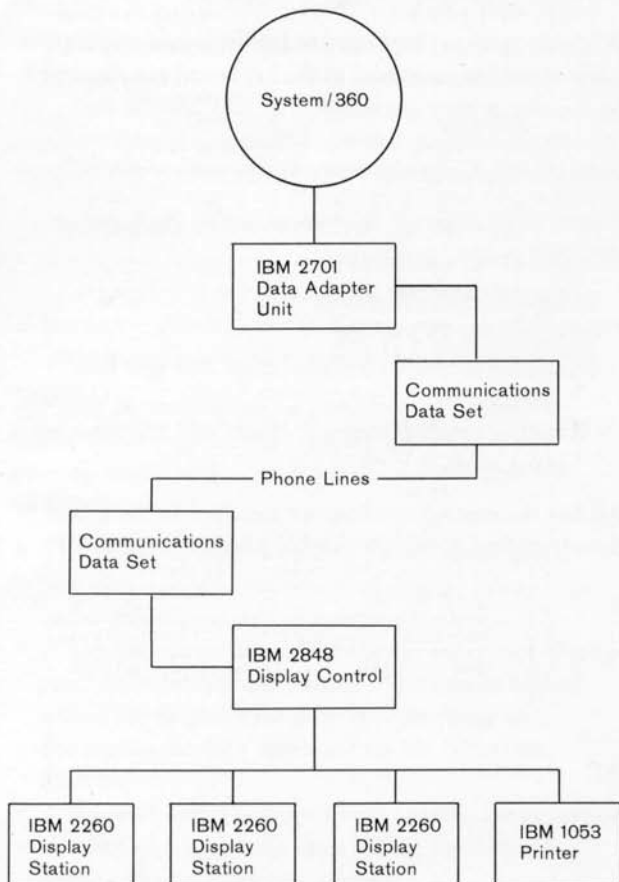
A total of 64 different characters can be displayed on the 2260 DS CRT, as follows:

- 26 alphabetical characters
- 10 numerical characters
- 25 special symbols (includes space and new line symbol)
- 3 control symbols (cursor, check, and start-manual input symbols)

All but the control symbols are involved in the actual data transfers across the display group interface.



Local Operation



Remote Operation

## Typical Display Group Configurations

Two display groups are illustrated in block form. One is configured to operate locally with System/360; the other is configured for operation remote from the host system. The diagrams depict the relationship between the equipments involved in display group operation.

Although only three 2260 DS's are shown in the illustrated display groups, a maximum of twenty-four 2260 DS's can be serviced by a single IBM 2848 DC, depending upon the 2848 model selected for use within the group.

## Serviceability

The IBM 2848/IBM 2260 display group is designed to facilitate on-line servicing, thus minimizing the time that the capabilities of the display group are denied to the user. Two primary factors that promote ease of maintenance are discussed below.

The 2848 DC contains buffer storage provisions that permit entire input messages to be assembled and viewed on the CRT of the 2260 DS before the message is entered in the host system. Since the input message is displayed character by character as it is being composed, the operator can correct, modify, or cancel it before the DC or the host system becomes aware of its existence. Similarly, the Customer Engineer can compose test messages to check 2260 DS operation without disrupting the operation of the display group with respect to other DS's.

The 2260 DS was designed using the modular concept. The Customer Engineer can place only the malfunctioning 2260 DS off-line and effect rapid repair through the substitution of major assemblies. Again, there is no need to disable the entire display group.