EMEA - IBM Display Station

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3180 IBM Display Station

Abstract

The IBM 3180 Display Station is a family of advanced-function CRT display stations for use with the S/360, S/370, the 303X, 308X, 3090, 43XX, and 9370 processors via a 3274 or 3276, and 8100 Information Systems, or the S/36, S/38, AS/400, and the 5294 or 5394 Remote Control Unit. The 3180 offers a high-resolution 15-inch (nominal), monochrome CRT display. The 3180 consists of five workstation elements: display, logic, keyboard, cable attachment, and power cord. Default order-entry schemes allow any available machine configuration to be ordered by model selection. The third digit in the model number indicates the language.

Model Abstract 3180-110

(For IBM US, No Longer Available as of April 5, 1988)

The IBM 3180-110 Display Station consists of the appropriate video element, logic element, a typewriter-style keyboard, cable attachment element, and a 3.0 m (9.8 ft) power cord. Model 110 attaches to the 3274 and 3276 for use with the S/360, S/370, 43xx, 303x, 308x, 3090, or 8100. Model 110 also attaches to the 4321, 4331, or 4361 with the Display/Printer Adapter; the 4361 with the Workstation Adapter, or the 4701 with the Device Cluster Adapter.

Model Abstract 3180-120

(For IBM US, No Longer Available as of April 5, 1988)

The IBM 3180-120 Display Station consists of the appropriate video element, logic element, a data entry-style keyboard, cable attachment element, and a 3.0 m (9.8 ft) power cord. No specify codes are required. Model 120 attaches to the 3274 and 3276 for use with the S/360, S/370, 43xx, 303x, 308x, 3090, or 8100. Model 120 also attaches to the 4321, 4331, or 4361 with the Display/Printer Adapter; the 4361 with the Workstation Adapter, or the 4701 with the Device Cluster Adapter.

Model Abstract 3180-130

(For IBM US, No Longer Available as of April 5, 1988)

The IBM 3180-130 Display Station consists of the appropriate video element, logic element, a APL-style keyboard, cable attachment element, and a 3.0 m (9.8 ft) power cord. Model 130 attaches to the 3274, 3276, 4361 with Workstation Adapter (#2002), or 9370 with workstation subsystem controller (#6020).

Model Abstract 3180-140

(For IBM US, No Longer Available as of January 5, 1988)

The IBM 3180-140 Display Station consists of the appropriate display element, logic element, a console-style keyboard, cable attachment element, and a 3.0 m (9.8 ft) power cord. Model 140 attaches to the 3090 Processor Complex and is used as the primary system or service console on the 3090. A minimum of two consoles are required for each 3090.

Model Abstract 3180-210

(For IBM US, No Longer Available as of April 5, 1988)

The IBM 3180-210 Display Station consists of the appropriate video element, logic element, a typewriter-style keyboard, cable attachment element, and a 3.0 m (9.8 ft) power cord. No specify codes are required. Model 210 attaches to the S/36, S/38, AS/400, 5294, or 5394.

Model Abstract 3180-220

(For IBM US, No Longer Available as of April 5, 1988)

The IBM 3180-220 Display Station consists of the appropriate video element, logic element, a data entry-style keyboard, cable attachment element, and a 3.0 m (9.8 ft) power cord. No specify codes are required. Model 220 attaches to the S/36, S/38, AS/400, 5294, or 5394.

Highlights

- High-resolution, 15-inch (nominal), monochrome CRT display
- Workstation elements: display, logic, keyboard, cable attachment, and power cord
- Standard models (default order-entry schemes) for available machine configurations, ordered by model selection

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Description

The 3180 provides display functions compatible with the 3278 Models 2-5 and the 5251 Model 11, advanced display functions, and enhanced ergonomic characteristics including display screen, tilt, rotate, and elevate. The 3180 keyboards consist of 122 keys which includes control and cursor movement keys, 24 program function or command function keys, alphameric keys, and numeric pad keys. The keyboard is attached to the display by a pluggable, coiled cable and has three operator selectable slope settings. The keyboard keycaps are removable and, on the Model 1, under 3274 Configuration Support D (Release 63), may be moved about on the keyboard to suit individual desires (with certain restrictions as described in the "IBM 3270 Information Display System Keyboard Utility Users Guide", GA23-0187). Thus, users can create uniquely tailored keyboard layouts (see "Customer Responsibilities").

The Model 1 provides the following operator selectable screen formats:

```
        off
No. of Lines        24    32    43    27
Chars. Per Line     80    80    80   132
Tot. Data Chars. 1,920 2,560 3,440 3,564
Char. Box Dot    12x18 12x16 12x12 10x16
 Matrix
Char. Dot Matrix  9x11    **   9x8   8x8
```

** 9 x 10

The Model 1 provides the following functions:

- 3278 base function
- Operator and program selectable screen formats
- Vertical scrolling
- Record/playback of keystrokes
- Modifiable keyboard
- Extended highlighting
- Monocase/dual case selection
- Local copy
- Keyboard choice:
    - Typewriter Style
    - Typewriter/APL Style
    - Console style (Models 140)
- Keyboard numeric lock selectable
- Adjustable audible alarm
- Security keylock
- Display tilt and rotate
- Display elevate
- Cursor position indicator
- Screen dimming
- Switch control unit (accessory)

The Model 2 provides the following program selectable screen formats:

```
        off
No. of Lines           24           27
Chars. Per Line        80          132
Tot. Data Chars.    1,920        3,564
Chars.Box Dot      12 x 18      10 x 16
 Matrix
Chars. Dot Matrix  9 x 11        8 x 8
```

Refer to individual system pages for formats supported.

The Model 2 provides the following functions:

- 5251-11 function
- Program selectable screen formats
- Record/playback of keystrokes
- Keyboard
- Typewriter style
- Adjustable audible alarm
- Security keylock
- Display tilt and rotate
- Display elevate
- Cursor position indicator
- Shadow cursor
- Special text symbols
- Screen dimming
- Multinational character set
- Message line
- Extended country character sets

consist of the appropriate video element, logic element, a data entry-style keyboard, cable attachment element, and a 3m (9.8 ft) power cord. No specify codes are required in most instances.

Models 140 The 3180 Model 140 is used as the primary system or service console on the 3090 Processor Complex. A minimum of two consoles are required for each 3090. The console serves as the primary interface for operator interaction with the processor. For maintenance and service support, the console displays the status of the processor complex and is used for interaction with the processor complex by service and support personnel. It is also used for controlling diagnostic tools. The Models 140 will be shipped with the appropriate display element, logic element, console-style keyboard, cable attachment element, and a 3.0m (9.8 ft) line cord.

Model Description 3180-110

The IBM 3180-110 Display Station consists of the appropriate video element, logic element, a typewriter-style keyboard, cable attachment element, and a 3.0 m (9.8 ft) power cord. Model 110 attaches to the 3274 and 3276 for use with the S/360, S/370, 43xx, 303x, 308x, 3090, or 8100. Model 110 also attaches to the 4321, 4331, or 4361 with the Display/Printer Adapter; the 4361 with the Workstation Adapter, or the 4701 with the Device Cluster Adapter.

The IBM 3180-1xx provides selectable multiple screen formats with up to 3,564 alphameric characters for entering, retrieving, editing, and displaying data. Attaches in clusters to the 3274 and 3276 for use with the S/360, S/370, 43XX (4321, 4331, 4341, 4361, and 4381), 303X, 308X, 3090, and the 8100 system, attaches to the 4321, 4331, or 4361 via the display/printer adapter, attaches to the 4361 via the Work Station Adapter, or attaches to the 4701 via the Device Cluster

Adapter (see "APL" below). Provides four user selectable screen formats.

- Up to 1,920 characters -- 24 lines of 80 characters each
- Up to 2,560 characters -- 32 lines of 80 characters each
- Up to 3,440 characters -- 43 lines of 80 characters each
- Up to 3,564 characters -- 27 lines of 132 characters each

Model Description 3180-120

The IBM 3180-120 Display Station consists of the appropriate video element, logic element, a data entry-style keyboard, cable attachment element, and a 3.0 m (9.8 ft) power cord. No specify codes are required. Model 120 attaches to the 3274 and 3276 for use with the S/360, S/370, 43xx, 303x, 308x, 3090, or 8100. Model 120 also attaches to the 4321, 4331, or 4361 with the Display/Printer Adapter; the 4361 with the Workstation Adapter, or the 4701 with the Device Cluster Adapter.

The IBM 3180-1xx provides selectable multiple screen formats with up to 3,564 alphameric characters for entering, retrieving, editing, and displaying data. Attaches in clusters to the 3274 and 3276 for use with the S/360, S/370, 43XX (4321, 4331, 4341, 4361, and 4381), 303X, 308X, 3090, and the 8100 system, attaches to the 4321, 4331, or 4361 via the display/printer adapter, attaches to the 4361 via the Work Station Adapter, or attaches to the 4701 via the Device Cluster Adapter (see "APL" below). Provides four user selectable screen formats.

- Up to 1,920 characters -- 24 lines of 80 characters each
- Up to 2,560 characters -- 32 lines of 80 characters each
- Up to 3,440 characters -- 43 lines of 80 characters each
- Up to 3,564 characters -- 27 lines of 132 characters each

Model Description 3180-130

The IBM 3180-130 Display Station consists of the appropriate video element, logic element, a APL-style keyboard, cable attachment element, and a 3.0 m (9.8 ft) power cord. Model 130 attaches to the 3274, 3276, 4361 with Workstation Adapter (#2002), or 9370 with workstation subsystem controller (#6020).

APL capability is available on Model 13X. APL is supported by an appropriately configured 3274 or 3276, or a 4361 with Work Station Adapter (#2002), or 9370 with Workstation Subsystem Controller (#6020). The 3180 Model 13X with the APL keyboard performs standard data processing functions when not in APL mode.

Model Description 3180-140

The IBM 3180-140 Display Station consists of the appropriate display element, logic element, a console-style keyboard, cable attachment element, and a 3.0 m (9.8 ft) power cord. Model 140 attaches to the 3090 Processor Complex and is used as the primary system or service console on the 3090. A minimum of two consoles are required for each 3090. The 3180 Model 140 is used as the console(s) on the 3090 Processor Complex. A 122-key keyboard permits the operator to display

and manipulate data on the screen. Depending on model selection, a typewriter-style or APL-style keyboard is provided. The 3180 meets both general-purpose and unique display requirements. The 3180 Model 140 is used as the console(s) on the 3090 Processor Complex.

Model Description 3180-210

The IBM 3180-210 Display Station consists of the appropriate video element, logic element, a typewriter-style keyboard, cable attachment element, and a 3.0 m (9.8 ft) power cord. No specify codes are required. Model 210 attaches to the S/36, S/38, AS/400, 5294, or 5394.

The IBM 3180-2xx provides two program selectable screen formats:

- Up to 1,920 characters - 24 lines of 80 characters each
- Up to 3,564 characters - 27 lines of 132 characters each

Model 20X: Attaches to the S/36, S/38, and AS/400, and the 5294 or 5394 Remote Control Unit. Provides two program selectable screen formats:

- Up to 1,920 characters -- 24 lines of 80 characters each.
- Up to 3,564 characters -- 27 lines of 132 characters each.

Model Description 3180-220

The IBM 3180-220 Display Station consists of the appropriate video element, logic element, a data entry-style keyboard, cable attachment element, and a 3.0 m (9.8 ft) power cord. No specify codes are required. Model 220 attaches to the S/36, S/38, AS/400, 5294, or 5394.

The IBM 3180-2xx provides two program selectable screen formats:

- Up to 1,920 characters - 24 lines of 80 characters each
- Up to 3,564 characters - 27 lines of 132 characters each

Model 20X: Attaches to the S/36, S/38, and AS/400, and the 5294 or 5394 Remote Control Unit. Provides two program selectable screen formats:

- Up to 1,920 characters -- 24 lines of 80 characters each.
- Up to 3,564 characters -- 27 lines of 132 characters each.

Models

Model Summary Matrix

```
    off
                   Screen  Char-
Models    Keyboard  Formats  acters   Attaches to
------    ----------  -------  -------  ------------------------
 110      Typewriter    4     up to    3274 or 3276 (for use with
                              3,564      S/360, S/370, 43xx, 303x,
                                         308x, 3090, 8100); 4321;
                                         4331; 4361; 4701

 120      Data entry    4     up to    3274 or 3276 (for use with
                              3,564      S/360, S/370, 43xx, 303x,
                                         308x, 3090, 8100); 4321;
                                         4331; 4361; 4701

 130      APL           4     up to    3274, 3276, 4361, 9370

 140      Console       4     up to    3090

 210      Typewriter    2     up to    S/36; S/38; AS/400; 5294;
                              3,564      5394

 220      Data entry    2     up to    S/36; S/38; AS/400; 5294;
                              3,564      5394
```

Maximum

Not available.

Customer Setup (CSU)

The 3180 is designated as a customer setup machine thereby offering the customer early availability and relocation flexibility. The Marketing Representative must advise the customer of his responsibilities before receipt of the machine. For additional information on CSU, refer to GI section. Not applicable to Console Models 140/145.

Site Planning and Preparation

These are the responsibility of the customer. The customer should have on hand, or should order the "IBM 3180 Display Station Introduction and Preinstallation Planning Manual", (GA21-9465 for Model 1 or GA21-9466 for Model 2) for site planning and preparation work.

Problem Determination Procedures

Significant function has been designed into this unit to provide greater availability to the customer through the use of

problem determination and recovery procedures that are easily understood and used by the operator. The procedures are provided in "IBM 3180 Display Station User's Guide", (GA21-9468 for Model 1 or GA21-9469 for Model 2). Also, see "Customer Responsibilities".

Customer Responsibilities

The customer is responsible for:

1. Receipt, unpacking and placement of the 3180.
2. Physical setup, connection of cables to IBM devices incorporating protected access areas, and checkout in accordance with instructions supplied by IBM.
3. Using and following the customer problem analysis and resolution procedures for the 3180 prior to calling for IBM service.
4. Providing a desk or a table top to support the 3180.
5. Installation and maintenance of signal cables and associated parts for interconnecting the 3180(s) and/or attached system or control unit.
6. Returning security keys with the display element if service of the display element is required.

   All modifications made to the standard 3180 keyboard. The customer should remove all special keycaps which are installed on the keyboard prior to submitting a keyboard for exchange or repair, because only keyboards with a standard key layout are available for exchange maintenance.

7. Modifying the system configuration specifications when adding additional display stations.
8. Determining quantities and acquiring adequate spares (see the Machine Elements section).

Customer Engineer/Service Rep. On-Site Assistance

If the customer desires assistance in performing CPAR, the local CE branch office may be called for CE/CSR assistance. The CE will respond to the customer site to aid the customer in performing CPAR procedures using the same documentation that is available to the customer. Customer owned spare Workstation Elements may be installed to replace defective workstation elements by the CE upon customer request. Shipping of defective elements to the Repair Center or Service/Exchange Center is a customer responsibility. All on-site assistance is available on a per-call basis at the applicable hourly rates and terms.

Devices Supported

```
    off
Models       Attaches to
------       ------------------------
 110         3274 or 3276 (for use with
               S/360, S/370, 43xx, 303x,
               308x, 3090, 8100); 4321;
               4331; 4361; 4701
```

```
120          3274 or 3276 (for use with
               S/360, S/370, 43xx, 303x,
               308x, 3090, 8100); 4321;
               4331; 4361; 4701

130          3274, 3276, 4361, 9370

140          3090

210          S/36; S/38; AS/400; 5294;
               5394

220          S/36; S/38; AS/400; 5294;
               5394
```

See other sections for details.

Model Conversions

None.

National Language Support

Specify the model shown below depending upon the combination of ordering country and language required:

```
      off
            Specify        Ordering
Language    Model          Countries
----------  ------------   -----------
Austrian/
 German     100/130/200    Austria,
                             Germany
Belgian     100/130/200    Belgium
Danish      100/130/200    Denmark
Finnish/
 Swedish    100/130/200    Finland,
                             Sweden
French
 AZERTY     10L/13L/20L    France,
                             Belgium
Italian     100/130/200    Italy
Norwegian   100/130/200    Norway
Portuguese  100/130/200    Portugal
Spanish     100/130/200    Spain
Swiss/
 German     100/130/200    Switzerland
Swiss/
 French     10U/13U/20U    Switzerland
```

```
English UK    10E/13E/20E      Any Country
English US    10A/13A/20A      Germany
English US    10Y/13Y/20Y      Any Country
                               (Other than
                               Germany)
```

Note: Specify Model 140 for a console model. This model is available only with US English language.

The country number of the ordering country determines the default for line cord and shipping group.

Technical Description

Physical Specifications

Not available.

Operating Environment

Not available.

Limitations

Not available.

Hardware Requirements

For Model 1:

1. One of the following control unit attachments:

   3274 with available Category A terminal port

   3276 with available port or added #3225, #3256, or #3257

     - The 3180 Model 1 is only available on the 3276 when emulating a 3278 Model 2-4.
     - The 3180 Model 130 is available on a 3276 with APL/Text Control feature #1067.

   4321 with standard display/printer adapter*

   4331 with standard display/printer adapter or display/printer adapter expansion #2001 on a 4331 Model Group 1 or

2*

4361 with standard display/printer adapter* or WSA (Work Station Adapter) #2002

9370 with Workstation Subsystem Controller (#6020).

An available console position on a 3092 processor controller (uses Model 140 only).

4701 with Device Cluster Adapter (#3101)

* The 3180 Model 1 is only available when emulating a 3278 Model 2.

2. 3274 Configuration Support D (starting with Release Level 63) for program selectable screen format sizes, vertical scrolling, modifiable keyboard, or cursor position indicator functions.

The use of magnetic readers and selector light pen on the 3180 is not supported.

For Model 2: One of the following control unit attachments:

- 5294
- 5360
- 5362
- 5381
- 5382
- 5394
- 9404
- 9406

Software Requirements

Not available.

Publications

- "IBM 3180 Model 1 Display Station Introduction and Preinstallation Planning Manual", GA21-9465
- "IBM 3180 Model 2 Display Station Introduction and Preinstallation Planning Manual", GA21-9466
- "IBM 3180 Display Station Model 1 User's Guide", GA21-9468 (shipped with the product)
- "IBM 3180 Display Station Model 2 User's Guide", GA21-9469 (shipped with the product).

For performance considerations of the 3180 Model 1 attached to the 3274, see "3274 Performance Guidelines", ZZ20-4167.

Features -- Specify/Special/Exchange

No Charge Specify Codes

Default Order Entry

Specify codes are not required when ordering a 3180. If other codes are not specified, appropriate defaults will be assumed based on the 3-digit country code. Default parameters are shown below for "Specifies".

- Color: Shell gray only. No specify code is required.
- Keyboard: One of the following keyboards will be supplied depending on the model ordered. No specify code is required. Note: The price of the keyboard is included in the machine price. Spare keyboard elements may be purchased via P/N. See "Workstation Elements".

    Typewriter-style - A 122-key pluggable keyboard with the EBCDIC character set, typewriter-like layout, movable, with alphameric keys, control keys, and a numeric pad.

- Console -- (will be supplied on the Model 140 No specify code required.) A 122-key pluggable and movable keyboard configured to function as the primary system or service console on the 3090 Processor Complex. Note: This keyboard is available with English language only.

    APL--A 122-key pluggable keyboard with the typewriter-style layout including 81 APL specific characters in addition to the 94 EBCDIC characters. An APL on/off key controls whether the keyboard is in typewriter or APL mode. When emulating a 3278 APL keyboard, PF Keys 13 through 24 duplicate PF 1 through 12. Furnished on Model 13X only.

- Voltage Defaults (200-240V, AC, 50/60 Hz): #0801 will be supplied for the following countries:

```
        off
Austria          Netherlands
Belgium          Norway
Denmark          Portugal
Finland          South Africa
France           Spain
Germany          Sweden
Ireland          Switzerland
Italy            UK
```

    Note: If the default voltage is not desired or if a default is not listed for your country, specify desired voltage from the following list:

```
        off
#0802       100-127V*
#0801       200-240V
```

```
       * Saudi Arabia only.
```

- Power Cord/Plug Default: A 3.0m power cord with the most commonly used plug for each country as shown in the "IBM 3180 Introduction and Preinstallation Planning Manual", (GA21-9465 for Model 1 or GA21-9466 for Model 2) will be shipped with the machine.
- Cables: See "Accessories" for Model 1 cable or Model 2 cable and associated cable components and ordering instructions.

The following RPQs may be applicable.

3180 with Swiss-German keyboard requires the following control unit/processor RPQs for emulation mode:

```
     off
3274:                   7H0394
3276:                   7H0396
4321/4331:              UC1603
```

3180 with Swiss-French keyboard requires the following control unit/processor RPQs for emulation mode:

```
     off
3274:                   7H0394
3276:                   7H0396
4321/4331:              UC1813
```

The following printer RPQs are available for the full compatibility with 3180 with Swiss-German keyboard or Swiss-French keyboard:

```
     off
3262 Line Printer:    UC1982 and UC2476
3287 Printer:         7H0390 or 7H0393
```

Note: Full compatibility with 3180 Swiss-German keyboard or Swiss-French keyboard is provided for 3268 printer as a standard function.

The 3180 with Spanish keyboard requires the following control unit/processor RPQs:

The 3180 Model 1 with Spanish keyboard is supported only via the 3274 with RPQ 7L0626. The 3180 Model 2 with Spanish keyboard is supported via the following control unit/processor RPQs:

```
     off
              Plant       Field
              ------      ------
```

```
5360 (Release 2)  8D0253      8D0227
5362              8D0205      N/A
5381 (Release 6)  8D0254      8D0228
5294              8D0193      N/A
```

Special Feature Codes -- Chargeable

None.

Feature Exchanges

None.

Accessories

Keys (P/N 2546418)

The 3180 is shipped with two keys for the keylock. Additional keys may be purchased from IBM. Vendor will supply additional keys only to original purchaser.

A letter of authorization with key identification number must accompany each order. Allow 6 to 8 weeks for delivery.

Note: If the key identification number is unknown, the display WSE may be sent to an IBM Repair Center or an IBM Service/Exchange Center for replacement of the lock and the keys. This service will be billed on a time-and-material basis.

User Modifiable Keyboard Accessories

The following are Model 1 accessories for user modifiable keyboards:

```
    off
Description               P/N
------------------------  --------
Clear Lens Keycaps        6341707
  (60 caps plus 60 light
  and 60 dark inserts plus 1
  removal tool)
Paper inserts for         6341704
  use with Clear Lens Keycaps
  (1 set of 150 light & 150 dark)
Removal Tool (6 tools)    1351717
Blank Keyboard Overlay (10)  6341703
French-AZERTY             1351716
  DPTW keycaps for Emulation Mode
```

```
     (2 sets) and keycap removal tool
```

Switch Control Unit

(Model 1) Permits switching operational control of 3180 between two different control units. Customer is responsible for procurement and installation of this accessory, and also for the replacement of a defective unit.

Warranty: The Switch Control Unit is warranted free from defects in workmanship and materials for 90 days.

Maintenance: There is no regularly scheduled maintenance recommended by IBM, and IBM Maintenance Agreements are not available for the switch control unit.

One of the following P/Ns should be specified when ordering for field installation.

```
     off
Language              P/N
-----------          -------
Danish               2446451
Dutch                2446452
English              2446446
Finnish              2446454
French               2446453
German               2446455
Italian              2446456
Norwegian            2446457
Spanish              2446450
Swedish              2446458
```

Model 1 Cables

IBM shielded twisted pair cable (or equivalent) or coaxial cable is required for product attachment. Cable and associated accessories can be purchased from IBM or a customer-selected source. The customer is responsible for installation and maintenance of the cable and associated accessories.

Twisted pair cable - For proper identification, installation, and application of cable and associated accessories, refer to "IBM Cabling System - Planning and Installation Guide", GA27-3361.

Coaxial cable - For proper identification, installation, and application of cable and associated accessories, refer to "IBM 3180 Introduction and Preinstallation Planning Manual", GA21-9465. Also, "Coaxial Cable and Associated Manual", GA27-2805.

When cabling is ordered from IBM, specify a shipping date 4 weeks in advance of receiving the machine.

```
     off
Item    Number     Description
```

```
----     -------   -----------------------
Assm     2577672   Cable Assembly In-Door
Bulk     0323921   Coax Wire  (Note 1)
P/N      1836418   Connector Kit  (Note 1)
Assm     1833108   Cable Assembly Out-Door
Bulk     5252750   Coax Wire  (Note 2)
P/N      1836419   Connector Kit  (Note 2)
P/N      1833104   Station Protector Kit,
                   Carbon (Note 4)
P/N      2621414   Modification Kit
                    (Note 3)
P/N      1833106   Station Protector
                   Attachment Kit (Note 5)
P/N      5252772   Station Protector
                   Element Carbon (Note 6)
P/N      5252643   Adapter  (Note 7)
P/N      1830818   Station Protection Kit,
                   Gas (Note 4)
P/N      5252899   Station Protector
                   Element, Gas (Note 6)
```

Notes:

1. Coaxial wire and one connector kit (includes two connectors P/N 1836446) required for each indoor cable assembly.
2. Coaxial wire and one connector kit (includes two connectors P/N 1836447) required for each outdoor cable assembly.
3. Customers replacing 2260 display stations may utilize the existing installed cables by use of this modification kit. One kit required for each cable.
4. Must be used with outdoor cable assembly when installed outdoors (either above or below ground level). One kit required for each cable assembly.
5. Use to attach outdoor cable to station protector. One kit is required for each cable assembly.
6. Replacement station protector elements.
7. Use to join two P/N 2577672 or two P/N 1833108 cable assemblies together.

Model 2 Cables

IBM shielded twisted pair cable (or equivalent), or twinaxial cable is required for product attachment. Cable and associated accessories may be purchased from IBM or a customer-selected source. The customer is responsible for installation and maintenance of the cable and associated accessories.

Twisted pair cable - For proper identification, installation, and application of cable and associated accessories, refer to "IBM Cabling System - Planning and Installation Guide", GA27-3361.

For proper identification, installation, and application of cable and associated accessories, refer to "IBM 3180 Introduction and Preinstallation Planning Manual", GA21-9466. When cable is ordered from IBM, specify a shipping date at least four weeks in advance of receiving the machine.

- Twinaxial Connector Kit: Includes two connectors. Twinaxial wire and one twinaxial connector kit are required for each attachment cable. Individual connectors are available for replacement purposes. Order as follows:

```
      off
P/N 7362268    Connector kit for
               vinyl covered cables
P/N 7362229    Individual connector
               (replacement) for
               vinyl covered
               cables
```

Twinaxial Wire: Order must specify the desired length. Twinaxial wire and one twinaxial connector kit are required for each attachment cable. (Vinyl-covered cable is an indoor/outdoor cable.) Order as follows:

```
      off
P/N 7362211    For vinyl-covered
               cables
```

Twinaxial Cable Assembly: Includes two connectors attached to bulk wire. The required length of wire must be specified on the order. The cost of the wire must be added to the fixed assembly price to obtain the total price of the cable assembly. Order as follows:

```
      off
P/N 7362267  Cable assembly with
             vinyl-coated wire
```

- Twinaxial Adapter (P/N 7362230): Permits two twinaxial cable assemblies to be joined together.

- Twinaxial Station Protector Kit (B/M 7361807): Two protectors. One is required at each end of each twinaxial attachment cable installed outdoors (either above or below ground level). Individual twinaxial station protectors (P/N 7362426) are available for replacement purposes.

Customer Replacement Parts

None.

Machine Elements

Workstation Elements may be ordered to provide individual elements as needed by the customer in the use of the 3180.

3180 Display Station Workstation Elements

Order Entry: For shipment, specify Machine Element (P/N) at time of order entry.

Workstation elements may be ordered to provide individual elements as needed by the customer in the use of the 3180.

Customer Responsibilities

The customer's responsibilities are those listed under "Customer Responsibilities" in the Customer Setup section.

Warranty

Category B. See "Warranty" in the Customer Setup section.

Spares

It is recommended that the customer replace a failing workstation element with a spare element and that the customer be advised to purchase sufficient spare 3180 elements or machines for such use. The number of spare units is dependent upon the number of 3180 units the customer has installed, application requirements, physical locations and layout. Determination of the required number of spares is a customer responsibility.

However, the minimum number of spare units recommended where one unit consists of a keyboard, a cable attachment, a power cord, a logic element, and a display element are shown in the following table:

Recommended Minimum Number of 3180 Machines:

```
    off
Number            Recommended Minimum
Installed         Spare Machines
-----------       -------------------
  1 - 50                 1
 51 - 100                2
101 - 300                3
301 - 500                5
501 - 700                6
701 - 1000               7
```

The customer should be advised to test spares for correct operation before putting them on the shelf. Spares may be ordered as complete machines or as individual workstation elements.

Customer Responsibility for Damaged or Altered Elements

Determination by IBM that damage to replaced units is due to causes or conditions not covered under the terms and conditions of the Purchase or Maintenance Agreement and repair of that damage or replacement of missing, altered or non-IBM parts will be charged for at IBM's then applicable time-and-material charges. Altered elements will not be eligible for the exchange or replacement services.

Maintenance

Maintenance for individual workstation element is only available on a time-and-material basis at an IBM Repair Center or through an IBM Service/Exchange Center. Minimum charge is applied. Maintenance for workstation element is different by country. Contact Country Service Department for the available maintenance in your country.

Spare display element, logic element, keyboard, cable attachment, and power cord of the 3180 can be ordered as follows:

Note: Except for keyboards, the parts listed for Model 1 also apply to Model 140

```
     off
To Fit Workstation
Model  Element    P/N*
-----  --------   --------------------
1/2    Display    2446625 (Saudi
                           Arabia Only,
                           100-127V)
1/2    Display    2446815 (200-240V)
1/2    Power
        Cord      6952356 for Bahrain/
                          Ireland/
                          Jordan/Kuwait/
                          Qatar/
                          UK/Sierra
                          Leone
                  6952300 Saudi Arabia
                  6952320 for Austria/
                          Germany/
                          Iceland/
                          Finland/
                          Netherlands/
                          Norway/
                          Portugal/
                          Spain/Sweden/
                          France/Belgium
                          Yugoslavia/
                          Romania/
                          Algeria/
                          Lebanon/
                          Czechoslovakia
                          Poland/
                          Hungary/
                          Bulgaria/
                          Greece/East
                          Germany
                  6952365 for
                          Switzerland
                  6952347 for
                          South Africa
                  6952329 for Denmark
```

```
                        6952383 for Israel
                        6952374 for Italy
1       Logic           2446748 (All European
                                 Countries-
                                 except Spain)
1       Logic           0925852 (Spain only)
1       Logic
        (APL)           2456431 (All European
                                 Countries-
                                 except Spain)
1       Logic
        (APL)           0931526 (Spain only)
2       Logic           2446964 (All European
                                 Countries-
                                 except Spain)
2       Logic           0925760 (Spain only)
1       Cable
        Attach          2446941 (All European
        (Coaxial)               Countries)
2       Cable
        Attach          2446942 (All European
        (Twinaxial)             Countries)
1       Keyboard
        (DP)            6111034 (Austrian/
                                 German
                                 QWERTY)
1       Keyboard
        (APL)           1445750 (Austrian/
                                 German
                                 QWERTY)
2       Keyboard
        (DP)            6111079 (Austrian/
                                 German
                                 QWERTY)
1       Keyboard
        (DP)            6111035 (Belgian)
1       Keyboard
        (APL)           1445751 (Belgian)
2       Keyboard
        (DP)            6111080 (Belgian)
1       Keyboard
        (DP)            6111036 (Danish)
1       Keyboard
        (APL)           1445752 (Danish)
2       Keyboard
        (DP)            6111081 (Danish)
1       Keyboard
        (DP)            6111037 (French-
                                 AZERTY)
1       Keyboard
        (APL)           1445755 (French-
```

```
                              AZERTY)
    2       Keyboard
            (DP)      6111082 (French-
                              AZERTY)
    1       Keyboard
            (DP)      6111038 (Italian)
    1       Keyboard
            (APL)     1445756 (Italian)
    2       Keyboard
            (DP)      6111085 (Italian)
    1       Keyboard
            (DP)      6111039 (Norwegian)
    1       Keyboard
            (APL)     1445754 (Norwegian)
    2       Keyboard
            (DP)      6111086 (Norwegian)
    1       Keyboard
            (DP)      6111040 (Portuguese)
    1       Keyboard
            (APL)     1445758 (Portuguese)
    2       Keyboard
            (DP)      6111087 (Portuguese)
    1       Keyboard
            (DP)      6111041 (Spanish)
    1       Keyboard
            (APL)     1445748 (Spanish)
    2       Keyboard
            (DP)      6111088 (Spanish)
    1       Keyboard
            (DP)      6111042 (Swedish/
                              Finnish)
    1       Keyboard
            (APL)     1445759 (Swedish/
                              Finnish)
    2       Keyboard
            (DP)      6111089 (Swedish/
                              Finnish)
    1       Keyboard
            (DP)      6111043 (Swiss-German)
    1       Keyboard
            (APL)     1445760 (Swiss-German)
    2       Keyboard
            (DP)      6111090 (Swiss-German)
    1       Keyboard
            (DP)      6111044 (Swiss-French)
    1       Keyboard
            (APL)     1445761 (Swiss-French)
    2       Keyboard
            (DP)      6111091 (Swiss-French)
    1       Keyboard
            (DP)      6111045 (English UK)
```

```
1       Keyboard
        (APL)      1445762 (English UK)
2       Keyboard
        (DP)       6111092 (English UK)
1       Keyboard
        (DP)       6110345 (English US-
                            EBCDIC)
1       Keyboard
        (APL)      1435036 (English US-
                            EBCDIC)
1       Keyboard   1435068 (English US)
        (Console)
2       Keyboard
        (DP)       6110347 (English US-
                            EBCDIC)
```

Note: Display element does not include a power cord or cable attachment module.

* Same as bills of material number.

Supplies

None.

Diskettes

None.

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