

CHANGE CLASSIFICATIONS AND RATINGS EQUIPMENT AND APPARATUS

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1. GENERAL

1.01 This section provides information concerning change classifications and ratings of circuit schematic drawings (SDs) as they relate to equipment and apparatus.

1.02 This section is reissued to include the class BU change, expand the AC change definition to include marginal (worst circuit) cases for Central Office Equipment, and update information on other change classifications. Since this section is a general revision, change arrows will not be used.

1.03 A description of the SD drawing and its associated circuit description (CD) is provided in Section 005-100-104.

2. DEFINITION OF CENTRAL OFFICE EQUIPMENT

2.01 A product is classified as *Central Office Equipment* when it provides functional circuitry to form an integral part of a complete system. It is not readily interchangeable, due to its wiring and options which are provided to alter the functions of the basic circuit. It is different

from and does not meet the definition of Apparatus covered in paragraph 3.01 or Customer Premises Equipment covered in paragraph 4.01.

2.02 In general, Central Office Equipment products have the following characteristics:

(a) **Not Easily Interchangeable:** Except for plug-in-type units, Central Office Equipment products are usually applied to telephone facilities by direct wiring between associated products, and are customarily mounted on frames or in cabinets.

(b) **Provide Functional Circuitry:** They will usually consist of functional circuits such as switching, observing, signaling, trunk, or test circuits which form a part of a complete system.

(c) **Options May Be Provided:** In most cases, they have or may have options which will alter the functions of the circuit. Service options may also be included.

(d) **Improvements May Be Made on Telephone Company Premises:** Changes to improve existing characteristics, correct undesirable conditions, or provide new operating features can be expected to be made on the products. These changes will usually be made on the Telephone Company premises by WE.

(e) **Central Office Records Will Be Maintained:** In order to facilitate making changes and to provide a record of circuits contained within a central office, detailed records will be maintained by WE, indicating quantity, features, and location of each type of circuit other than equipment-type (deferrable) plug-in units. This type of detailed record will also be maintained by WE for customer premises equipment on WE engineered jobs and on Telephone Company engineered jobs where the Telephone Company requests that WE maintain records. The Telephone Companies will keep records of the physical locations of equipment-type (deferrable) plug-in units in their particular areas.

(f) **Drawing Information Will Be Provided for Telephone Companies:** Documentation such as circuit drawings, circuit descriptions, wiring, and assembly drawings will be provided to complement the records in (e) and to provide information to service and maintain equipment products.

3. DEFINITION OF APPARATUS

3.01 A product is classified as **Apparatus** when it is a small, common, and interchangeable unit which cannot or should not be modified or repaired while connected in its service location, except when Bell System Practices (BSPs) are issued for such modifications or repairs. Central office records for the product will not be required. An exception to this condition is made in the case of certain customer premise equipments.

Note: Central office records are defined as records kept by WE indicating quantity, features, and locations of each type of circuit, and not those that are normally kept by the Telephone Companies for the purpose of cost accounting.

3.02 In general, Apparatus products have the following characteristics:

- (a) **Standard Unit:** It is a standardized unit with possible repetitive use in one or more systems.
- (b) **Small and Functional:** It is generally small, performs a single function, and may or may not have wiring.
- (c) **Interchangeable:** It is mechanically and electrically interchangeable with previously manufactured products of the same code.
- (d) **No Changes:** It is not likely to have circuit changes that would require field modification.

3.03 In general, SDs and CDs are not prepared for apparatus product; however, such information may be prepared at the request of AT&T and made available to the Telephone Companies for products such as circuit packs, data sets, etc.

4. DEFINITION OF CUSTOMER PREMISES EQUIPMENT

4.01 Any PBX or switching system equipment, excluding key system packages, which is shipped from Western Electric (WE) for installation on customer premises is classified as Customer Premises Equipment. Examples of equipment in this category are:

- 770A PBX
- 812A PBX
- DIMENSION® PBX
- No. 101 ESS Switching Units
- Automatic Call Distributing Systems
- Units or equipment that have been designed for use in customer premises equipment
- Units or equipment that have been designed for central office equipment but which are **known** to have application in customer premises equipment.

5. CHANGE CLASSIFICATIONS—GENERAL

5.01 A classification letter (A, AR, AC, B, BU, or D for Equipment and A, A1, B1, or D1 for Apparatus) is added to all issue numbers of SD drawings subsequent to Issue 1. This classification letter is intended to indicate the type and reason for change including the manner in which the change should be applied.

5.02 Product change classification letters A, AR, AC, B, BU, and D are applicable to General Trade Suppliers of telecommunication products who have contracts in effect with the Bell System Purchased Products Division of American Telephone and Telegraph Company (AT&T).

6. EQUIPMENT CHANGE CLASSIFICATIONS

6.01 A change classification letter A, AC, AR, B, BU, or D, is applied to SD drawings

covering circuit changes for equipment products and is used as follows:

A

6.02 Use—For inoperative electrical or mechanical conditions, extremely unsatisfactory operating conditions, or conditions which result in safety hazards, the use of the class A designation has the following impact:

- (a) Shipment of product will stop until the change is incorporated. Analysis will determine at what stage of production the change will be incorporated. In many cases, the change will cause factory production to be stopped.
- (b) WE owned product will be modified.
- (c) Requires WE Change Notice action to inform the installer of the change. This could possibly affect installation dates or necessitate origination of a remedial order to correct equipment which has been turned over to the Telephone Company.
- (d) Requires WE action which assures Telephone Company notification of class A changes through change notice procedures.

6.03 Application: Immediate action shall be taken to correct the condition on all jobs or products in the hands of WE or the Telephone Company.

6.04 Record: No record of figures and options (such as wiring and apparatus) previously shown on the drawing shall be maintained.

AC

6.05 Use: For inoperative electrical or mechanical conditions, or unsatisfactory maintenance or operating conditions, or conditions which result in safety hazards, except that the conditions are caused by circuit combinations or options which exist only on certain jobs or products.

To compensate for marginal (worst circuit) cases where the inoperative or unsatisfactory conditions exist on certain jobs or products and are not or cannot be associated with specific circuit combinations or options, for example, high traffic usage problems (where a specific unit cannot meet the design

intent), environmental problems (not including local conditions under which the product was never intended to operate), etc. The applicable condition shall be described on the change authorization.

Regardless of the condition, the use of the class AC designation *may have* the following impact:

- (a) Shipment of the product will stop until the change is incorporated. Analysis will determine at what stage of production the change will be incorporated. In many cases, the change will cause factory production to be stopped.
- (b) WE owned product will be modified if specified in the change authorization.
- (c) Requires WE Change Notice action to inform the installer of the change. This could possibly affect installation dates or necessitate origination of a remedial order to correct equipment which has been turned over to the Telephone Company.
- (d) Requires WE action which assures Telephone Company notification of changes through change notice procedures.

6.06 Application: Action shall be taken by WE and the Telephone Companies to selectively correct the condition on those jobs or products *affected*. The change shall be applied as specified in the BTL change authorization.

6.07 Record: A detailed record of figures and options (such as wiring and apparatus) previously shown on the circuit drawing shall be maintained.

AR (Central Office Equipment)

6.08 Use: For unsatisfactory electrical or mechanical, or unsatisfactory operating conditions, which may be allowed to exist on a temporary basis. Regardless of the condition, the use of the class AR designation has the same impact as class A except that in some cases, jobs may be turned over to a *Telephone Company* without incorporating the change as noted under Application in paragraph 6.09.

6.09 Application: This change shall be made on all jobs in the hands of WE or the Telephone Company as soon as possible. Those

jobs in the hands of WE shall have the change made before turnover or delivery to the Telephone Company, except where turnover or delivery would be delayed, in which case the change shall be applied as soon as possible after turnover or delivery.

Note: The term "turnover" is the date that Western Electric's Installation Organization issues the final Completion Notification to the Telephone Company.

6.10 Record: No record of figures and options (such as wiring and apparatus) previously shown on the drawing shall be maintained.

BU

6.11 Use: For conditions of a mandatory nature, for example, fulfilling federal registration or future compatibility requirements, or for conditions of sufficient importance to be intended for universal application but have some characteristics that are not within class A, AC, or AR definitions. Regardless of the condition, the use of the BU designation **may have** the following impact:

- (a) Shipment of the product will stop after a designated period until the change is incorporated. Analysis will determine at what stage of production the change will be incorporated. In many cases, the change will cause factory production to be stopped.
- (b) WE owned product will be modified.
- (c) Requires WE Change Notice action to inform the installer of the change. This could possibly affect installation dates or necessitate origination of a new order to change equipment which has been turned over to the Telephone Company.
- (d) Requires WE action which assures Telephone Company notification of BU changes through change notices.

6.12 Application: Action shall be taken to incorporate changes on all jobs or products in the hands of WE or Telephone Companies. These changes shall be made by WE as soon as possible, to start not later than three months after receipt of design information from BTL.

6.13 Record: A detailed record of figures and options (such as wiring and apparatus) previously shown on the circuit drawing shall be maintained.

Note: This classification is not to be used to correct design defects, class A, AC, or AR as appropriate shall apply. Neither shall this classification be used to obtain short intervals for normal class B changes. The class BU change is of such importance to justify its application to factory production within the interval indicated under "Application" and is also intended for application to existing jobs in the field.

B

6.14 Use: The changes in this category are designed to accomplish the following:

- (a) Provide new features that directly affect subscriber service
- (b) Provide design improvements which result in better service capabilities
- (c) Provide changes in design which result in important cost savings to Telephone Companies
- (d) Provide initial Common Language Equipment (CLE) codes as design requirements.

Note: These changes are sufficiently important to justify their application to factory production within the specified interval, and **are recommended** for application to existing installations in the field. This classification is not to be used to correct design defects. Class A, AC, or AR, as appropriate, shall apply.

6.15 Application (central office equipment):

This change shall be made by WE as soon as possible on all products but **not later than 6 months**, plus the normal manufacturing interval, after release of final information by BTL. When the 6-month interval cannot be met, or the change is of such significance as to warrant rapid introduction, the interval required shall be established by agreement among BTL, WE Equipment Standards Engineering Organization, and the functional AT&T Engineering Director.

Note: An exception to the 6-month time limit is permitted when schedules (availability dates) have been established by AT&T and WE and are published in Engineering Letters (ELs).

6.16 Application (Customer Premises Equipment): This change shall be incorporated in all products shipped to WE owned stock starting no later than 6 months after release of the final design information. If it is determined that the 6-month interval cannot be met, the product shall not be shipped without agreement among the functional BTL Department Head, the WE Engineering Manager, and the AT&T Engineering Manager. Field notification is required via an AT&T Engineering Letter, and AT&T Drawing Notice, or other means.

6.17 Record: A detailed record of figures and options (such as wiring and apparatus) previously shown on the circuit drawing shall be maintained.

D

6.18 Use: The changes in this category are designed to accomplish the following:

- (a) Provide design changes which result in minor improvements in service capabilities
- (b) Provide design changes which permit manufacturing cost reductions or which facilitate manufacture
- (c) Implementation of routine changes such as rating, title, and note modifications
- (d) Provide CLE codes as design requirements.

6.19 Application (Central Office Equipment): This change shall be made by WE as early as practicable on all products but **not later than 12 months**, plus the normal manufacturing interval, after the release of final information by BTL. When the 12-month interval cannot be met, or the change warrants expedited introduction (eg, a significant cost reduction), the interval required shall be established among BTL, WE Equipment Standards Engineering Organization, and the functional AT&T Engineering Director.

6.20 Application (Customer Premises Equipment): The change shall be

incorporated in all products shipped to WE owned stock starting no later than 12 months after release of the final design information. If it is determined that the 12-month interval cannot be met, the product shall not be shipped without agreement among the functional BTL Supervisor, the WE Assistant Manager, and the AT&T Assistant Engineering Manager. Field notification is required via an AT&T Engineering Letter, an AT&T Drawing Notice, or other means.

6.21 Record: A detailed record of figures and options (such as wiring and apparatus) previously shown on the drawing shall be maintained.

7. APPARATUS CHANGE CLASSIFICATIONS

7.01 A change classification letter, A, A1, B1, or D1, is applied to SD drawings covering circuit changes for apparatus products and is used as follows:

A

7.02 Use: For inoperative electrical or mechanical conditions, or extremely unsatisfactory operating conditions, or conditions which result in safety hazards, the use of the class A designation has the following impact:

- (a) Shipment of product will stop until the change is incorporated. Analysis of the change will determine at what stage of production the change will be incorporated. In many cases, the change will cause factory production to be stopped.
- (b) WE owned product will be modified.
- (c) Requires WE Change Notice action to inform the installer of the change. This could possibly affect installation dates or necessitate origination of a remedial order to correct equipment which has been turned over to the Telephone Companies.
- (d) Requires WE action which assures Telephone Company notification of class A changes through Engineering Letters, change notice procedures, or other means.

7.03 Application: Immediate action shall be taken to correct the condition on all products and parts, including those assembled in equipments,

under the control of WE or in the hands of the Telephone Company.

A1

7.04 Use: Unsatisfactory maintenance or operating condition.

7.05 Application: Same as class A except that the change does not apply to product being installed or in the hands of the Telephone Company.

B1

7.06 Use: To incorporate urgent improvements in design, resulting in better operating, testing, or maintenance conditions, longer life or important savings, and to provide CLE codes.

7.07 Application: This change shall be made as soon as possible on all products in the process of manufacture, insofar as this can be done without reassembling, rewiring, readjusting, or retesting, and on all parts in all stocks at WE factory locations and in the process of manufacture.

7.08 WE will apply class B1 changes as previously noted. When this cannot be done **within 6 months** after the date of the BTL change authorization, the date of application should be mutually agreed upon between the BTL and the WE Manufacturing Engineering Organizations. **However, the 6-month time limit should not be interpreted to mean that class B1 changes may be set aside for a period of 6 months, or that unchanged parts in stock may continue to be used during this period even though new or changed parts have been made available.**

D1

7.09 Use: The changes in this category are designed to accomplish the following:

- (a) Incorporate improvements in design
- (b) Facilitate manufacture
- (c) Reduce cost
- (d) Provide CLE codes as design requirements.

7.10 Application: This change shall be made as early as practicable on all products on which it can be applied without interfering with production or incurring loss through the scrapping or conversion of products, parts, or raw materials.

7.11 WE will apply class D1 changes as previously noted, **but not later than 12 months** after the date of the BTL change authorization. When this cannot be done, the date of application should be mutually agreed upon between the BTL and the WE Manufacturing Engineering Organizations.

7.12 When a change is made on certain apparatus products where one of the basic classifications A, A1, B1, or D1 does not apply, then the classification is modified by using the suffix letter (C) enclosed in parentheses in conjunction with the letter designation for the basic classification which is most applicable, ie, B1 (C). This (C) suffix modifies the basic classification as defined at the time of use and as noted in the change authorization.

For Example:

B1(C)—Same as class B1 except that existing parts in stock should not be scrapped.

8. RATINGS

8.01 The following ratings are used on circuit schematic drawings:

- (a) **AT&TCo Standard:** Drawings covering designs that have been approved for general use throughout the Bell System.
- (b) **A & M Only (Additions and Maintenance Only):** Drawings covering designs that are no longer recommended for general use in connection with installation of new equipment but which may be used for additions to or maintenance of existing equipment.
- (c) **Mfr Disc. (Manufacture Discontinued):** Drawings covering designs that are no longer recommended for new installations or for additions to existing equipment except where it is economical to equip previously wired circuits.
- (d) **AT&TCo Provisional:** Drawings covering designs which are not yet standardized but for which standardization is contemplated.

(e) **AT&TCo Provisional Standard:** This rating has not been used since 1940 but was used prior to that time to cover drawings where development work had been completed and the new arrangements could be used generally throughout the Bell System.

(f) **Special or AT&TCo Special:** Drawings covering designs which are intended for use

under special conditions only and do not apply generally throughout the Bell System.

(g) **Preliminary:** Drawings covering designs in the early stages of development. Generally used on trial installations, and restricted to a particular system, part of a system, or telephone office.