Numbering and Lettering Power and Lighting

Contents

I

(continued)

Contents, continued

1. General

1.1 Purpose

This practice provides the correct method and procedures used for numbering and lettering power and lighting equipment in central offices (COs)

1.2 Filing Instructions

This practice supersedes Issue 4, December 1989. Remove and discard issue 4 and file this Issue 5 in its place in your practices set.

1.3 Supersedures

This document supersedes the following GTE Practices:

- 244-251-200CA, Numbering and Lettering Central Office Equipment Power and Lighting.
- 244-251-952CA, Labeling Ammeters + 130 Volt Power Plants and + 130 Volt BDFBs/

1. General, continued

1.4 Copyright and Responsibility

This practice was written by the COE Construction Department and published by the Telephone Operations Administrative Services Group. For more information about this practice contact the COE Construction Department.

1.5 **Disclaimer**

This practice **has** been prepared for GTE Telephone Operations employees, customers, and end users' employees who operate and maintain the equipment engineered and installed by GTE. The information in this practice is subject to change and may not be suitable in situations. GTE Telephone Operations acknowledges that a customer's special requirements or practices may take precedence over those supplied in this practice if a conflict develops during installation or ongoing operation. GTE Telephone Operations hereby disclaims any responsibility or liability for any consequential or inconsequential damages that may result from the use of this practice.

2. Overview

2.1 Guidelines

Label equipment in accordance with the following site documentation:

- Floor plan drawing(s).
- Equipment location drawing(s).
- Power distribution and grounding job drawing(s).
- Cable running lists.

Labeling identification information should agree and be consistent in all the above-mentioned engineering documents. If not:

- Consult with your engineer for proper identifications.

  AND

- Return red-lined drawings and/or specifications of the changes at the completion of hardware installation but no later than the end of the job. Document and forward the marked job drawings using the JIM process (refer to GTE Telephone Operations Practice 007-015-003, Work Order Closing Procedures).

2.2 References

For general information regarding the use of lettering and stamping equipment, and embossing tools and materials, refer to the appropriate practice in the 075-222-xxx and 075-223-xxx series of GTE Telephone Operations Practices.

2.3 Definitions

The term "labels" used **in this** practice refers to:

- Clear **MYLAR®-type labels.**
- Embossing tape.
- Pre-printed labels.
- Hand-stamping.
- Stenciling.

Lettering **must be of contrasting background to the** surface on which it appears.

2.4 **Surface Preparation**

All surfaces to be labeled must be clean and free of foreign matter. Prior to the application of ink or pressure sensitive material, the surface must be wiped clean using a cloth with 91% isopropyl alcohol or 1,1,1 Trichloroethane.

2.5 Lettering Systems/Kits

The following lettering systems/kits are acceptable:

- MERLIN 1370 Lettering System (MC 882756)
- MERLIN **EXPRESS®** Lettering System (MC 860317)
- **KROY®** 360 Lettering System (MC 860318 and 860319)
- **DYMO®** 2300 Embossing Kit (MC 575667)
- **DYMO®** 1350 Embossing Kit (MC 634165)
- NEUSES N-2315 Stencil Kit (MC 575152)

2.6 Designation Strips/Tabs

For ordering information concerning various designation strips and tabs, refer to GTEAMS. See listings under STRIP-DESIGNATION and TAB-DESIGNATION.

For tab designation, refer to the Material Codes listed in GTE Telephone Operations Practice 244-261-I 00, Exhibits 19-21.

2.7 Typical Labeling Applications

Since it is not possible to show every existing numbering and/or lettering situation in this practice, Exhibits 1-11 depict typical labeling applications. The labeling sizes and locations should be followed as closely as possible.

NOTE: These illustrations are not to be identified as specific types of equipment, but as various types and classes of power and lighting equipment.

MYLAR is a registered trademark of E. I. Dupont de Nemours Company.
MERLIN EXPRESS is a registered trademark of Varitronics.
KROY is a registered trademark of Varitronics.
DYMO is a **registered trademark** of Dymo Visual Systems, Incorporated.

3. Power Frame/Board Labeling

3.1 Frame Mnemonics Labeling

Using 3/4-inch labels, identify frame mnemonics (PCDF, PDUF, DSUF, etc.) in accordance with:

- Floor plan drawings.
- Equipment power distribution and ground job drawings.
- Specifications.

Refer to Exhibit 1.

NOTE: Drawings and specifications should agree. If there are discrepancies, contact the engineer.

3.2 Fuse Panel Labeling

Normal fuse panel numbering on the power distrlbution boards must be **in** accordance with the bus growth direction from the meter and shunt panel. Exhibit 2, PCDF example, covers one split bus configuration growing inside-out.

3.3 Fuse Module labeling

Exhibit 3 covers the preferred standard method of labeling power board fuse modules. Other methods may exist and are acceptable **only** if all the data indicated in Exhibit 3 is included.

Installation must **not** change existing labeling. in existing sites, new fuse/rack labeling must follow the established format. However, if all required data is not identified, begin identifying with current work order.

Label all fuses at the power board to show equipment served. The older BDFB fuses can be labeled with stencil or 1/2" embossing tape. Refer to Exhibit 5.

3.4 **High/Low Voltage Alarm Labeling**

Use 1/2" character size labels or the vendor/manufacturer-provided labels for identifying the low and high voltage alarms on the power control unit (Exhlbii 4).

Label the high and low voltage alarm values in accordance with GTE Telephone Operations Practices 205-601-701 and 205-001-500.

3. Power Frame /Board Labeling, continued

3.5 +130 volt BDFB Ammeter Labeling

Exhibit 6 is a typical example of labeling a main powerboard ammeter for a 200AMP capacity, + 130 volt power plant. In this example, the power plant consists of three 50 AMP + 130V rectifiers. Since in some areas one redundant rectifier or converter is required in all new power installations, the redundant rectifier (represented in amps) is labeled in red. The yellow indicates a warning area. Notify Switching Engineering when the ammeter needle enters this area. The green indicates a safe condition.

Exhibit 7 is an example of a 200AMP + 130 volt plant with seven 20AMP converters.

The following chart shows typical installations employing 50AMP rectifiers and 20AMP converters.

NOTE: The tape colors are optional.

PLANT SIZE *	REFERENCE EXHIBIT	RECT/ CONV SIZE IN AMPS	TOTAL RECT/ CONV	TOTAL CAP IN AMPS	GREEN TAPE AREA	YELLOW TAPE AREA	RED TAPE AREA
200AMP	6.	50A	3	150A	1-50A	51-100A	101-150A
200AMP	7	20A	7	140A	1-100A	101-120A	121-140A

*** Maximum reading of ammeter.**

The following is a list of materials required for labeling ammeters.

DESCRIPTION	MATERIAL CODE	PART NO.
Scissors	577685	175E
Tape, Red Vinyl	747948	1214
Tape, Green Vinyl	747960	514
Tape, Yellow Vinyl	747952	1810014

4. Charger/Rectifier Labeling

4.1 Requirements

Identify frame and/or charger/rectifier mnemonics (CHGR-1 , CHGR-2, etc.) using 3/4-inch labels.

Use l/2-inch labels of contrasting colors for the battery float and equalize values on the front of each charger in an easily accessible/readable location.

5. Other DC Fuse Panel Labeling

5.1 Requirements

All fuse panels must have each fuse size and the equipment assignment designated. Identify the required information (space permitting) on the respective fuse panel. Use the engineer- provided fuse assignments layout for identifying specific fuse positions and assignment labeling.

When space does not allow for labels on individual fuses, use a fuse designation card holder kit (Trimm Inc., part number 7500020100 **[20-fuse** posltion], or part number 7500020200 [40-fuse position]) to identify fuse size and power assignments.

NOTE: **The difference between the two kits is the designation card layout. The individual designation card part numbers for ordering are:**

- **20 position – Trimm Inc.,** 7500020002.
- 40 **position – Trimm Inc., 7500020003.**

Attach the holder (Trimm Inc., part number 750002001, included in kit) to the fuse panel or frame housing of the relay rack lineup using the two screws provided. It is acceptable to use double-sided tape (3M part number 4032-2, MC 761042).

Identify on the fuse designation card the specific racks/frames/bays being fused and the value of the fuse. Refer to Exhibii 8.

6. Ringing Machines

6.1 Requirements

The bottom front of each ringing machine, on each unit, must be labeled using 1/2-inch labels for the frequency identification, hertz, and voltage (e.g., F1, 25 HZ/100 V; F2, 33-1/3 HZ/110V, etc.

Refer to the 205-25X-XXX series of GTE Telephone Operations Practices for settings.

7. Batteries Labeling

7.1 Rack/String

Battery rack/string mnemonic designation must be in accordance with the **engineered floor plan and Equipment Power Distribution and Ground (EPDG) job drawing identifications. Both documents should agree on the mnemonic. Use 3/4-inch labels.**

Place the battery string number designation (BATT 1, BATT 2, etc.) on the **battery rack's horizontal rail or the vertical support** nearest the cross **aisle of the battery string housing ceil #1.** In the case of **recombination-type batteries, locate the battery string number** on the front **cover (upper left-hand corner) housing ceil #1.**

6.2 Cells

Label battery cells with manufacturer-supplied ceil numbers and polarity labels, or stencil/emboss using **3/4-inch characters. On recombination-type ceils, locate the labels** on each ceil adjacent **to the vent caps, under the ceil's cover, or in accordance with the battery manufacturer's instructions. Include the installation date** and initial charge date on **the** front cover of the battery string housing ceil #1 using l/2-inch **labels (upper left-hand corner).**

8. AC Switch/Receptacle/Lights

8.1 Responsible Department

The following chart defines labeling responsibility.

If a job is...	Then...
Performed under contract	**The department under contract is responsible** for proper labeling of all AC power circuits included in this practice.
Not performed under contract	Equipment Construction is responsible for proper labeling of AC power circuits as outlined in this practice.

8.2 Instructions

Clearly mark the switchroom AC panel/breaker box index card to identify equipment description for each circuit's usage.

Mark each piece of equipment to reflect its power source (panel, name, and circuit breaker number).

Refer to Exhibits 9A-C and 10-B for typical methods of AC switch, receptacle, and light identification labeling.

Use either 3/8- or 1/2-inch labeling.

9. Power, Return, and Ground Cable Labeling

9.1 Instructions

All labels must be legible and conveniently and consistently located on cables when applied.

- Mark all power, return, and ground cables on both cable ends to reflect their circuit function. Use any of the following:
  - Thomas & Betts E-Z-Code markers or equivalent.
  - Flag-type tie wraps.
  - Manufacturer's preprinted labels.
- Mark negative and positive ends of the cables at the equipment dead end to show the power source. Cut the dc power cable positive end approximately one inch longer than the negative polarity end.

  EXAMPLE: BDFB 2001 B - fuse 23 BDFB 2001 B + fuse
- Negative cables at the fuse distribution point may not require labels as the fuse modules are also labeled.
- At the power board, mark the positive cable to reflect the termination point of its negative mate; e.g., B panel fuse 23.
- Mark all office ground leads to indicate the lead number as it relates to GTE Telephone Operations Practice 795-805-071; e.g., lead #57 ironwork. Mark on both ends of the ground cable runs.
- Mark cables terminating at the batteries and rectifiers to identify the far end terminations and polarity.

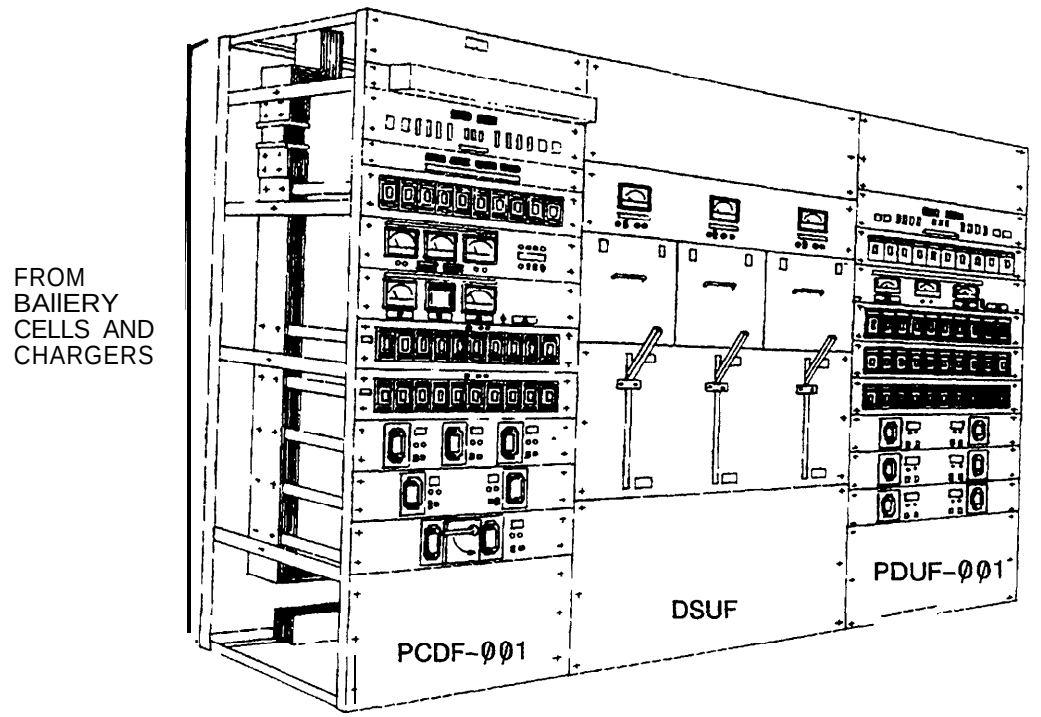
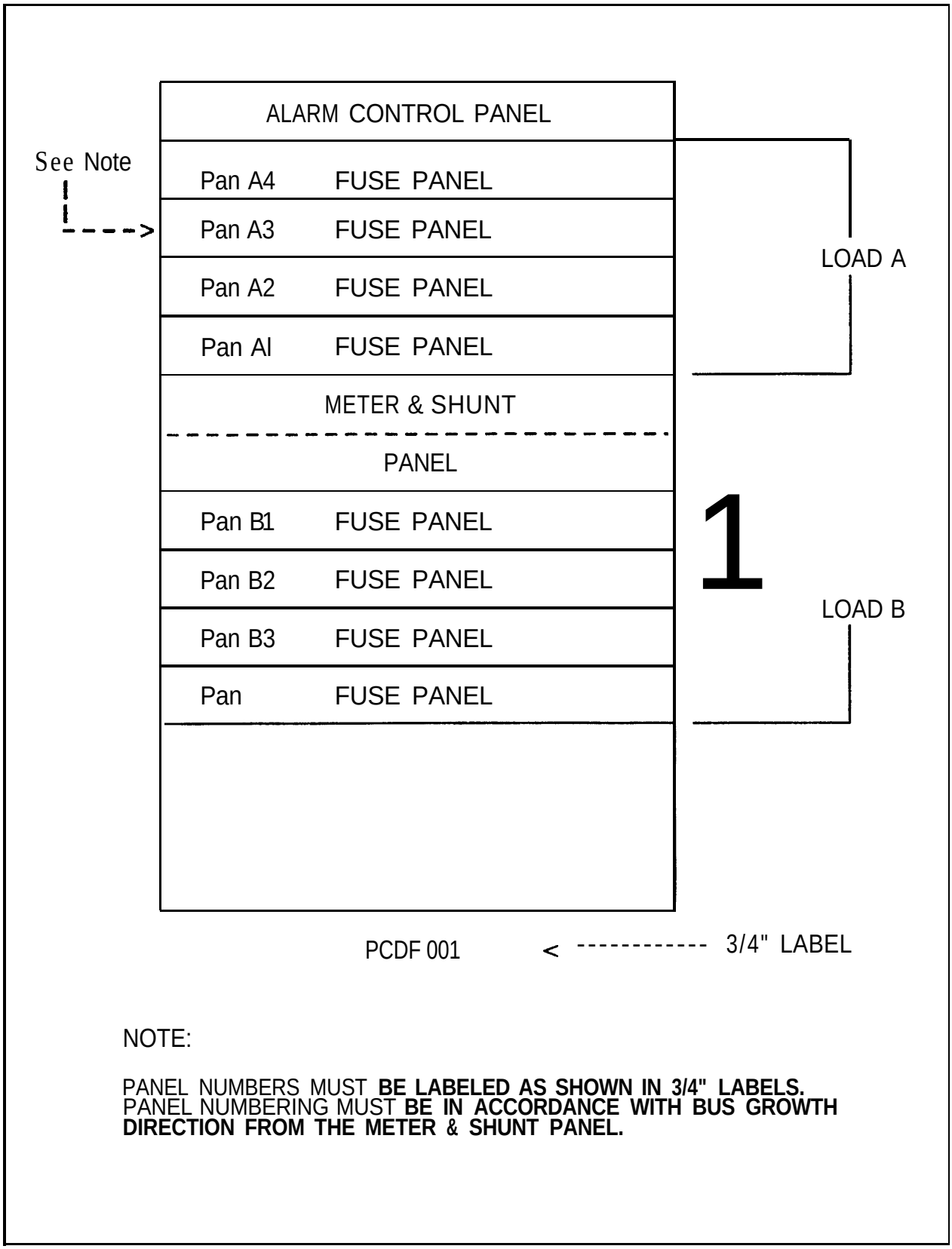


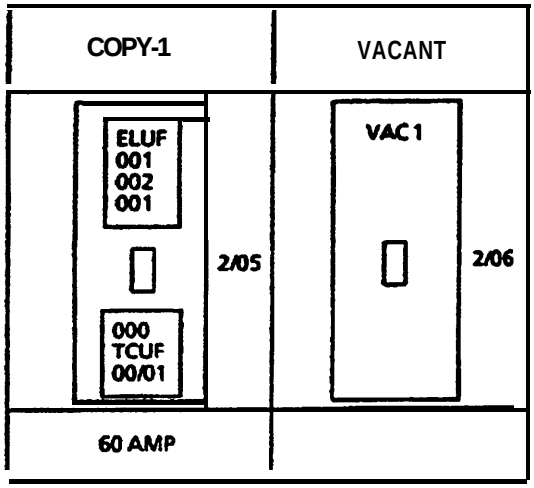
Exhibit 1 - Typical Series B Power Complex



NOTE:

PANEL NUMBERS MUST **BE LABELED AS SHOWN IN 3/4" LABELS.**
PANEL NUMBERING MUST **BE IN ACCORDANCE WITH BUS GROWTH DIRECTION FROM THE METER & SHUNT PANEL.**

Exhibit 2 - PCDF Fuse Panel (Split Bus Configuration)



THE 2/05, 2/06, INDICATES THE FILE AND SLOT IN THE PDU WHERE THE FUSE MUST BE INSERTED IF IT HAS BEEN REMOVED.

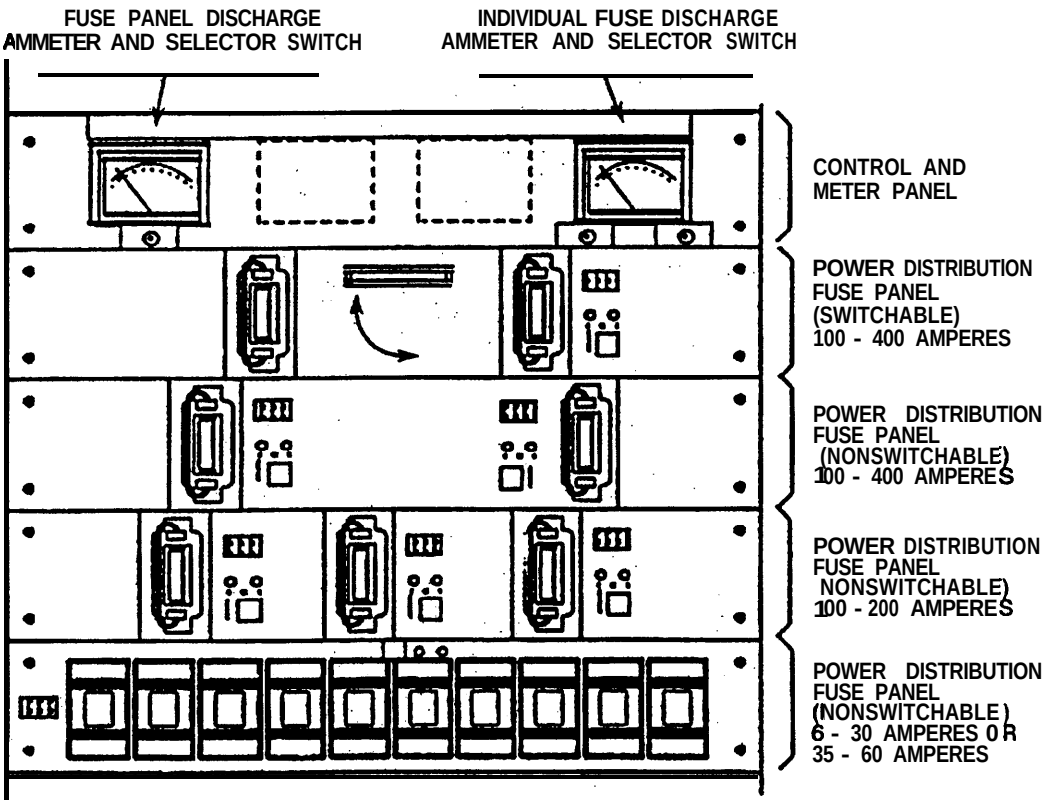
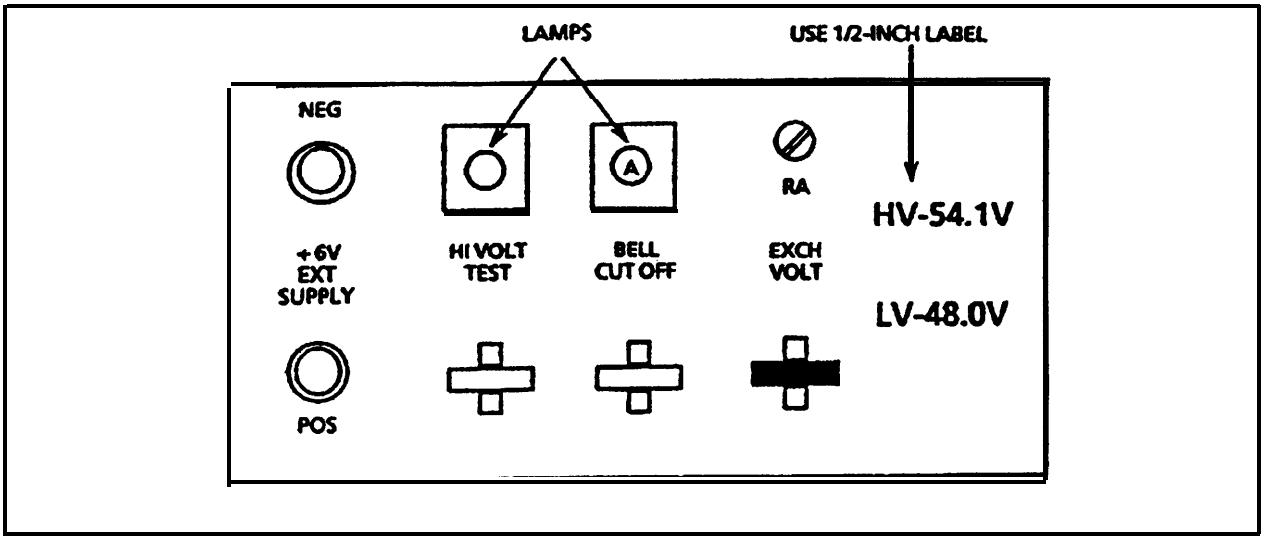


Exhibit 3 -
Individual Fuse Labeling (top)
Fuse Panel and individual Fuse Metering (bottom)



Exhibtt 4 - High/Low Vottage Alarm

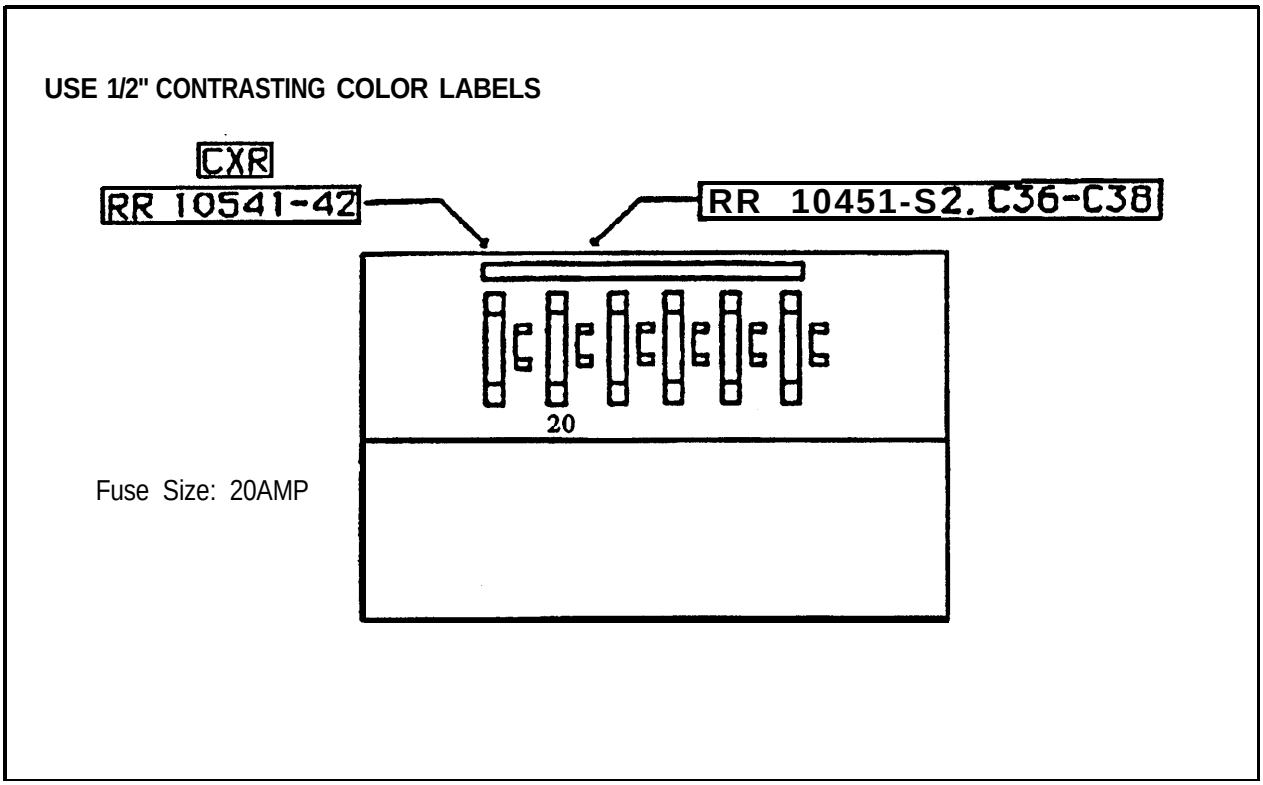
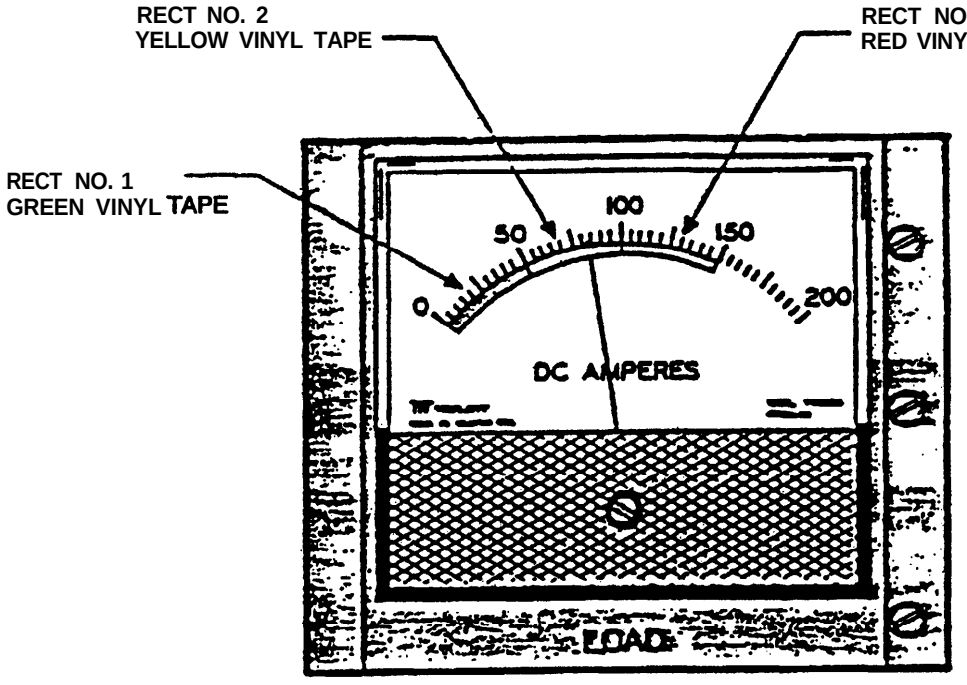
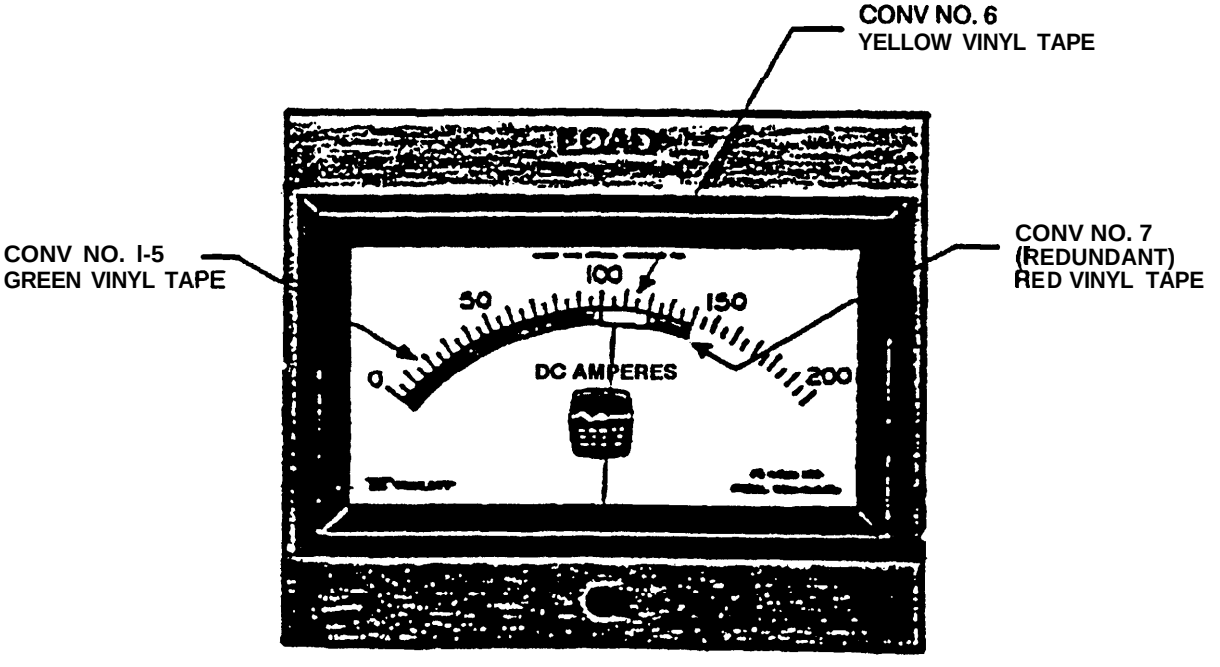


Exhibit 5 - Typical BDFB Identification of CXR Fuses



NOTE: TAPE COLORS OPTIONAL

Exhibit 6 - Main Powerboard Ammeter



NOTE: TAPE COLORS OPTIONAL

Exhibit 7 - Main Powerboard Ammeter

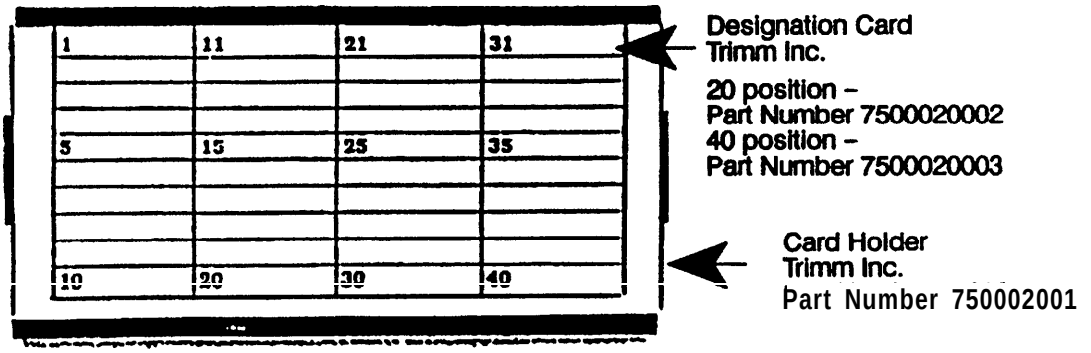
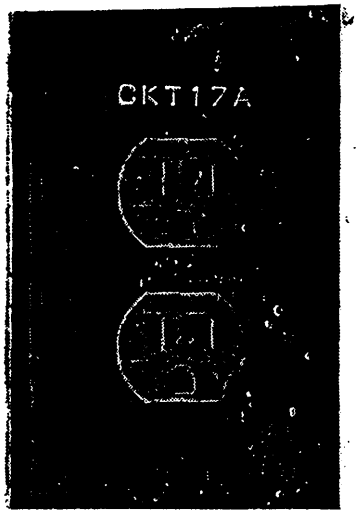


Exhibit 8 - Fuse Designation Card and Holder

NOTES:
1. IDENTIFY AU commercial AC circuits USED FOR SWITCHROOM LIGHTING RECTIFIERS OR OTHER EQUIPMENT, WITH 1/2" OR 3/8" LABEL. DESIGNATE WITH SPECIFIC BREAKER ASSIGNED TO EACH PIECE OF EQUIPMENT.
2. APPLY CIRCUIT AND PANEL NUMBERS WITH LABEL

Exhibit 9A – Light Switch



NOTES:
1. IDENTIFY ALL COMMERCIAL AC CIRCUITS USED FOR SWITCHROOM LIGHTING, RECTIFIERS, OR OTHER EQUIPMENT, WITH 1/2" OR 3/8" LABEL. DESIGNATE WITH SPECIFIC BREAKER ASSIGNED TO EACH PIECE OF EQUIPMENT.
2. APPLY CIRCUIT AND PANEL NUMBERS WITH LABEL.

Exhibit 9B - Receptacle

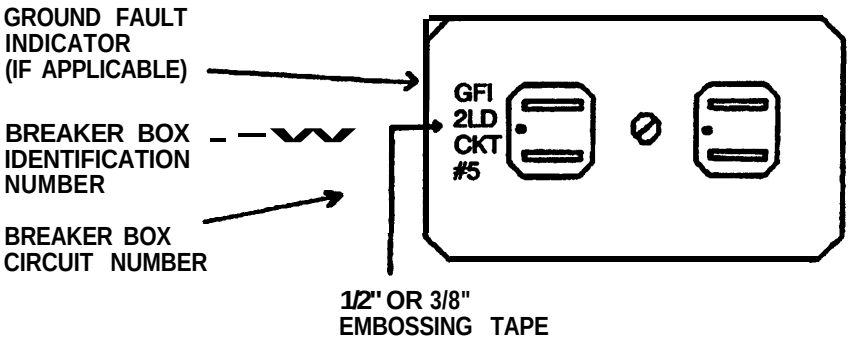
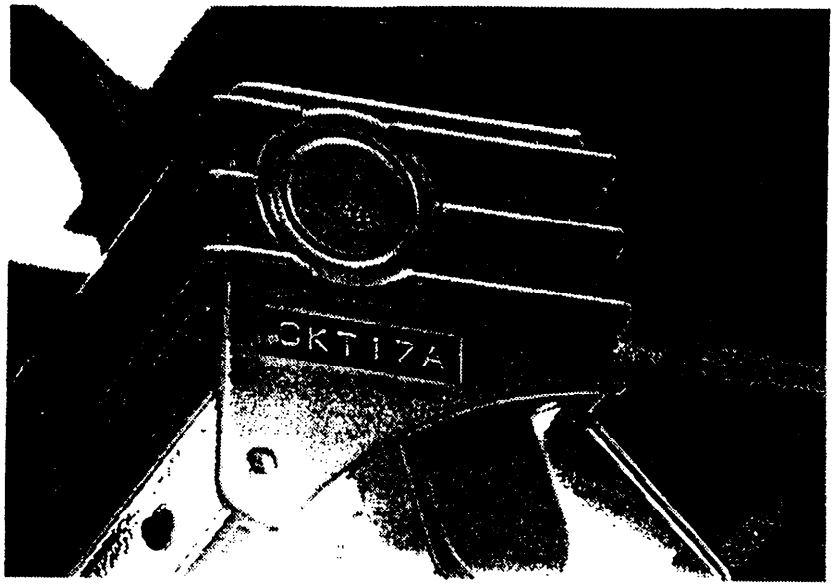
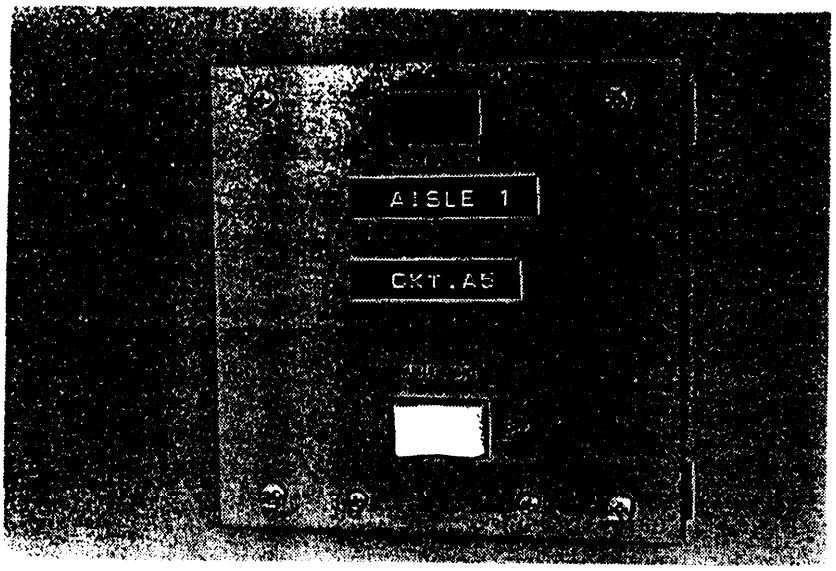


Exhibit 9C - Typical Convenience Receptacles



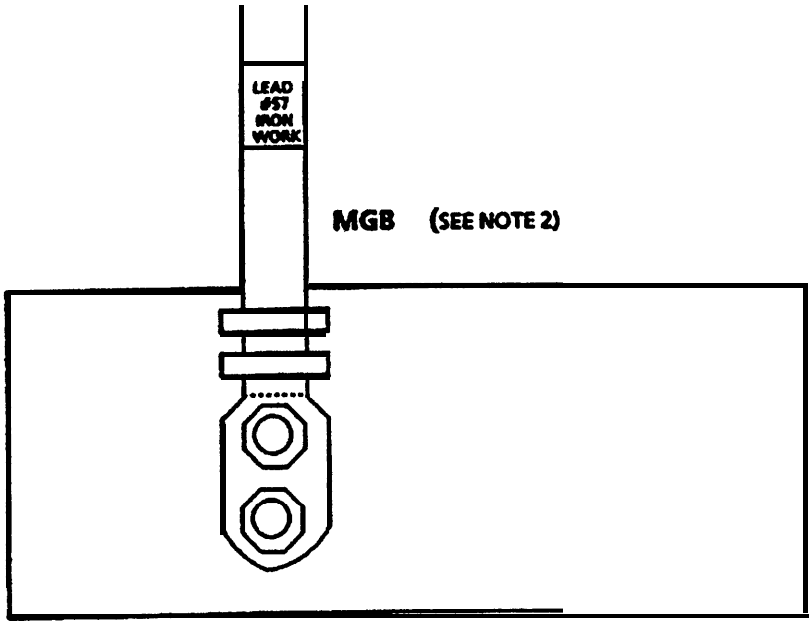
NOTE: APPLY CIRCUIT AND PANEL NUMBERS OF LIGHTS TO END OF LINE UP.

Exhibit 10A - **Equipment Overhead** Lighting



NOTE: USE 1/2" LABEL. TRIM LABEL TO FIT PROPERLY

Exhibit 10B - Equipment Frame Aisle Lighting



NOTES:

1. Use Universal type cable marking labels or equivalent.
2. if wall or column mounting, identify bar as MGB or FGB, etc., directly below or above the bar in 3/4" label.
3. See GTE Telephone Operations Practice 795-805-071 for a description of the various lead designations.

Exhibit 11 - Typical Ground Cable Label