

GFELLER LINE CONCENTRATOR  
POWER SUPPLY PEC-8002  
DC OPERATION

1. GENERAL

1.01 This appendix is issued to include the necessary information on units converted to DC battery operation.

1.02 The following additional information and alteration of the main section is necessary for DC operation. The main section text is valid, as is, for AC operation.

1.03 Plus-and-minus battery operation was devised to eliminate noise originating in the Gfeller ac signaling circuits and electrolysis due to dc ground return currents. As a result, the Gfeller circuitry has been modified to use dc inputs only.

1.04 In order to function properly the modified Gfeller line concentrator requires power at a positive 45-50 volts dc in addition to -72 volts dc and/or -48 volts dc. A special rectifier, or positive dc power applique, (see Fig. 1A) is used to convert the 70-80 volt ac output of the PEC supplies to +45 volts dc for use by the concentrator unit. One rectifier unit is required for each concentrator.

1.05 The following paragraphs of the main section are replaced:

3.12                      5.01

3. CIRCUIT DESCRIPTION

3.12 The connections of the power block on the Gfeller line concentrator central office unit are as follows (see Figs. 2A and 3A):

For -48 volt operation -

70 volts ac connects to the bottom two terminals of the 700A terminal strip (indicated by 1 and 2 in Fig. 3A) of the rectifier.

The next to the top terminal (indicated by 7 in Fig. 3A) of the 700A terminal strip of the rectifier connects to the +45 terminal of the power block (indicated by 1 in Fig. 2A).

-48 volts connects to the -48 terminal (indicated by 5 in Fig. 2A).

Strap from the -48 terminal to the -72 terminal (indicated by 3 in Fig. 2A).

Strap the two terminals marked GND together (indicated by 2 and 4 in Fig. 2A).

Central office ground connects to either of the GND terminals (indicated by 2 and 4 in Fig. 2A).

For -72 volt operation -

70 volts ac connects to the bottom two terminals of the 700A terminal strip (indicated by 1 and 2 in Fig. 3A) of the rectifier.

The next to the top terminal (indicated by 7 in Fig. 3A) of the 700A terminal strip of the rectifier connects to the +45 terminal of the power block (indicated by 1 in Fig. 2A).

-72 volts dc connects to the -72 terminal (indicated by 3 in Fig. 2A).

-48 volts dc connects to the -48 terminal (indicated by 5 in Fig. 2A).

Strap the two terminals marked GND together (indicated by 2 and 4 in Fig. 2A).

Central office ground connects to either of the GND terminals (indicated by 2 and 4 in Fig. 2A).

In concentrators equipped with RA-RF marking relays having 1000-ohm windings, it is necessary to make a certain modification if

**SECTION 067-201-502PT  
APPENDIX 1**

the cable used to connect the concentrators together exceeds 5 miles. In this situation reference should be made to Section 067-201-103 - Extending the AC Signaling Range. This reference is still valid for extending the signaling range even though ac signaling currents are no longer used.

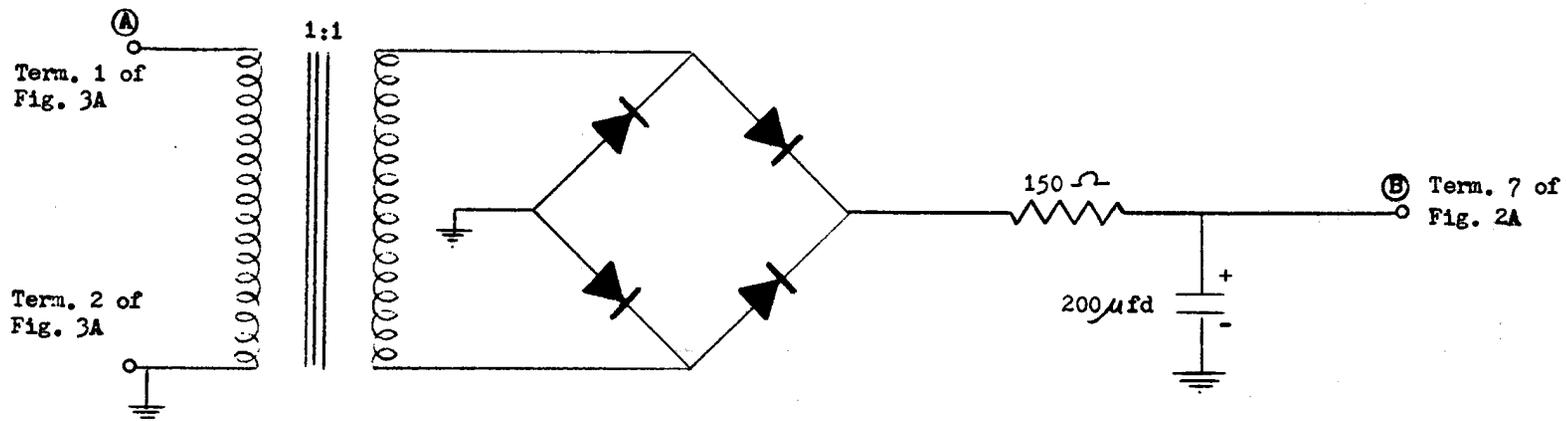
**5. TESTS AT TIME OF INSTALLATION**

5.01 In making the tests outlined in part 5, the ac output terminals should be disconnected from the rectifiers and the

dc output terminals disconnected from the concentrators. These are the terminals 1-5 of the AC OUTPUT and 1-5 of the DC OUTPUT.

**6. SUPPLEMENTARY DIAGRAMS**

6.01 The attached figures are included to further clarify the interconnections of the PEC supplies and the rectifiers.



Notes:

Ⓐ is the point at which 70-volts ac is connected to the rectifier unit from the PEC power supply

Ⓑ is the point at which +45 to +50 volts dc appears. This point should be connected to the +45 terminal of the power block on the Gfeller line concentrator central office unit.

Fig. 1A  
Rectifier Schematic

Fig. 2A  
Gfeller Power Block

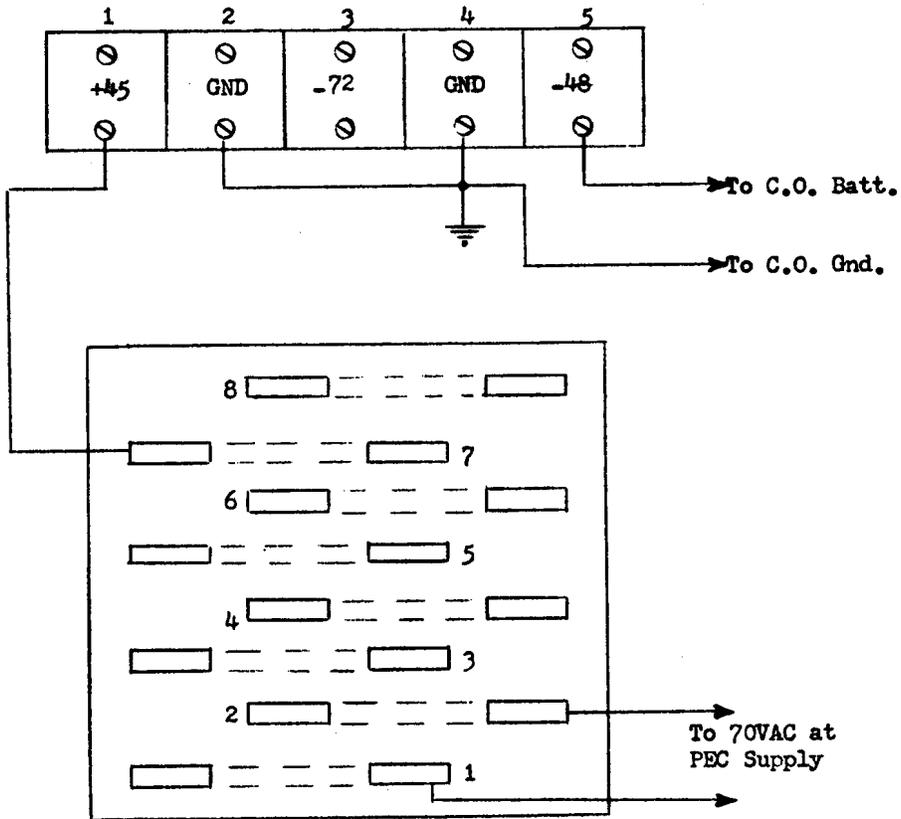


Fig. 3A  
700A Terminal Strip on Rectifier

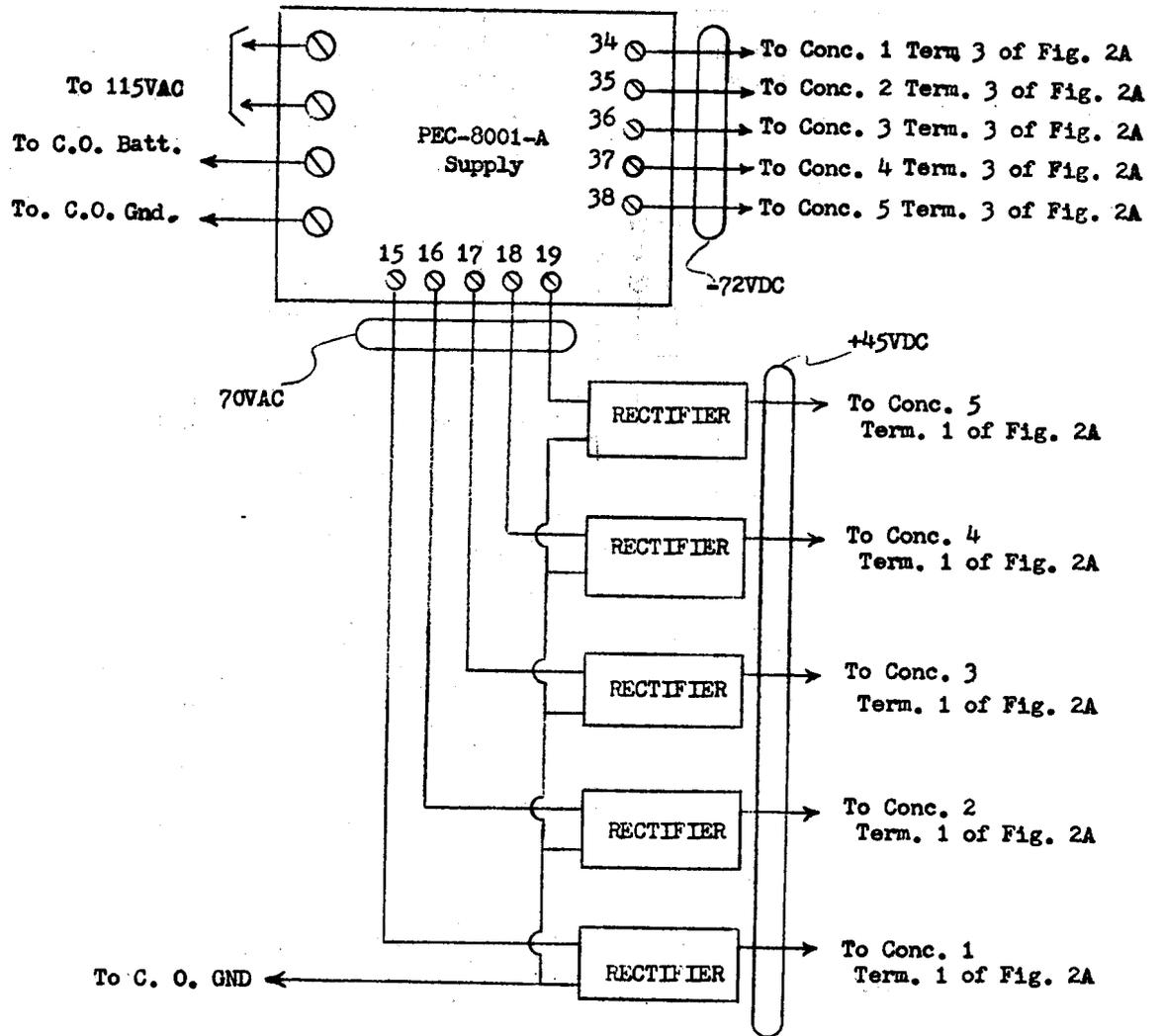


Fig. 4A  
PEC - 8001-A Connections to Rectifiers

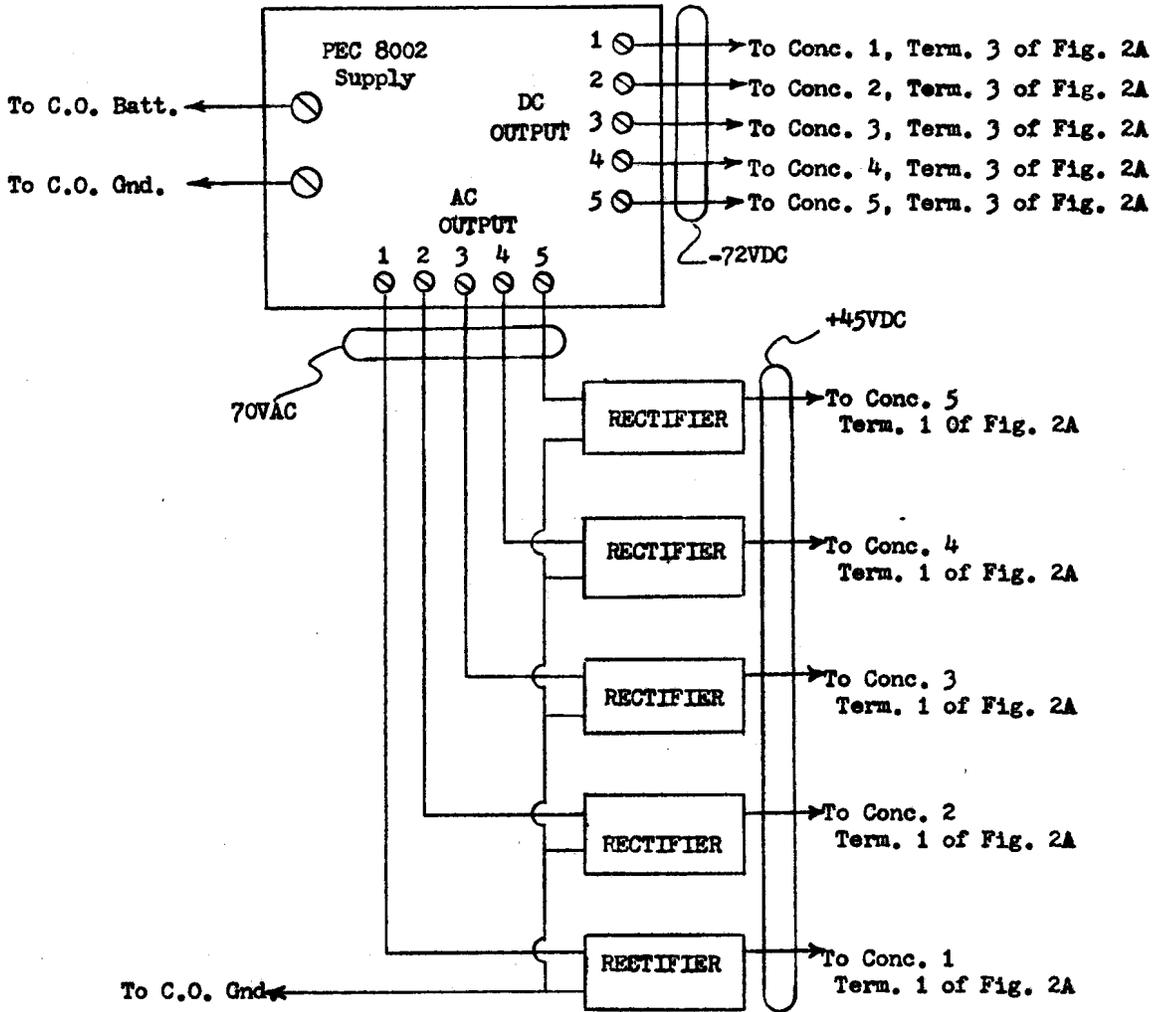


Fig. 5A  
 PEC - 8002 Connections to Rectifier