

CONNECTING ARRANGEMENT AD1

23A COUPLER

1. GENERAL

1.01 This section provides identification, installation, operation, maintenance, and connection information for the 23A coupler when used in Connecting Arrangement (CA) AD1.

1.02 CA AD1 uses the 23A coupler to provide an interface between customer-provided (CP) dc dial pulse dialers (not to be used with TOUCH-TONE® sets) and the central office (CO) or PBX station line.

1.03 Connecting Arrangement AD1 does not provide for receiver muting during dialing; if this feature is required, Voice Connecting Arrangement (VCA) SU7QW may be used.

1.04 For multiline sets, refer to Section 463-340-100 for VCA SU7 or Section 463-340-104 for VCA SU7QW.

1.05 An associated telephone set may make a normal outgoing call with this CA.

1.06 If the customer wants a copy of the Technical Reference which covers CA AD1, the customer should contact the local Telephone Company Business Office or Marketing Representative.

1.07 The customer should be informed by the manufacturer or supplier of his equipment of the proper CA to be used with the equipment.

1.08 This issue of the section is based on the following drawing: CD and SD-69912-01, Issue 1—23A Coupler Circuit. If this section is to be used with equipment or apparatus reflecting later issues of the drawing, reference should be made to the CD and SD to determine the extent of the changes and the manner in which the section may be affected.

2. IDENTIFICATION

PURPOSE

- To provide facilities for connecting CP dial pulse repertory dialers to the telephone line
- To provide dc isolation and hazardous voltage protection
- To provide network control by dc dial pulse repeating
- To provide fail safe operation if dialer is disconnected or power fails.

APPLICATION

- Provides for the connection of CP dial pulse dialers that do not require a transmission path or associated telephone set receiver muting during dialing.

ORDERING GUIDE

- Coupler, 23A
- Transformer, 2012B (one per coupler).

DESIGN FEATURES

- Approximate dimensions are 4 inches long by 2-3/4 inches wide and 1-7/8 inches deep.
- Contains a mercury relay for long life.
- Provides covered screw terminals for line and power connections.
- Provides exposed screw terminals on top of coupler for customer connections.
- Must be mounted in vertical position.
- AC power requirements are 15 to 25 volts at 20 milliamps RMS maximum. DC power

requirements are 18 to 26 volts at 22 milliamps maximum.

- Repeats dial pulses without pulse correction.

3. INSTALLATION

3.01 The location and method of installing the 23A coupler shall be consistent with standard practices. Locate the 23A coupler within 5 feet of associated telephone set. Remove cover and mount coupler on wall or baseboard in a vertical position with terminal board at top. The coupler must be mounted vertically to insure that the sealed contacts of the D relay will be in the enclosed mercury pool.

3.02 Connect telephone line and telephone set mounting cord to screw terminals on terminal board at top end of coupler as shown in Fig. 2 and 3.

3.03 At single installations, a 2012B transformer can be used to power the 23A coupler. Where wiring conditions permit, up to five couplers can be powered by a 2012B transformer. At multiple coupler installations use a KS-5714, List 4 or List 5 signal transformer or a 19B2 power unit.

3.04 The 2012B transformer, when used, should be fastened to a 115-volt, 60-Hz ac outlet not under control of a wall switch. Run "D" inside wire leads and terminate on screw terminals 1 and 2 located on the printed circuit board. (See Fig. 1.) When a dc power unit is used, connect the positive lead to screw terminal 1 and the negative lead to screw terminal 2.

3.05 Replace cover and fasten cover attaching screw. After installation is complete, apply power and perform operational tests given in Part 5 of this section.

3.06 The customer will provide the leads to his dialer pulsing contact and connect to screw terminals A and B located on the terminal board on the top end of the coupler. These terminals are not covered when cover is in place and are clearly marked on the cover. Make sure there is clear access to these terminals for the customer.

4. OPERATION

Outgoing Call

4.01 To originate an outgoing call, the customer sets the dialer selector to the desired number and goes off-hook on the associated telephone company-provided telephone set. (The telephone set must remain off-hook for duration of call.) After receiving dial tone, the customer presses the start button on his dialer to initiate the call. The pulsing contact in the CP dialer opens and closes the A and B leads causing the D relay in the 23A coupler to open and close the tip side of the telephone line to repeat dial pulses to CO or PBX. If power failure should occur or CP dialer becomes defective, the D relay releases after a short delay to close the tip side of the telephone line to provide normal operation of the associated telephone set. An incoming call is received in the normal manner.

5. MAINTENANCE

5.01 When trouble is reported verify that:

- Customer dial pulse interface leads are secure on coupler.
- Power is supplied to coupler with correct polarity.
- Leads to line and station set are secure.
- CO or PBX line and telephone set are operative.

5.02 After performing steps in 5.01, if trouble still exists, perform the following tests.

5.03 Disconnect the customer dialer leads from screw terminals A and B. Connect a 1013A (or equivalent) hand test set to screw terminals A and B. Place hand test set in "TALK" position. Go off-hook on associated telephone set; after receiving dial tone, dial the test number for 1000-Hz test tone using the 1013A hand test set for dialing. Verify satisfactory reception and place the 1013A hand test set in "MON" position to open the line and 1000-Hz test tone will no longer be heard. In less than 2 seconds, dial tone should be heard as the coupler closes the tip side of line.

5.04 If the tests are satisfactory, remove all test connections to restore circuit to normal and reconnect customer dialer leads to screw terminals A and B. If coupler does not meet above tests, replace coupler.

Note: Do not attempt any test or make repairs to the CP equipment.

5.05 When in the repairman's judgment the trouble is located in the CPE, the Repair Service Bureau should be notified so that proper maintenance of service charge billing can be initiated as outlined in Section 600-101-312 entitled Maintenance

of Service Charge on Services with Customer-Provided Equipment (CPE).

6. CONNECTIONS

6.01 Refer to Fig. 1, 2, and 3 for power, line and station set connections.

6.02 The customer must provide leads and connect the pulsing contact of the CP dialer to terminals A and B.

6.03 Screw terminals C and 7 are spare terminals provided for future applications and are not used.

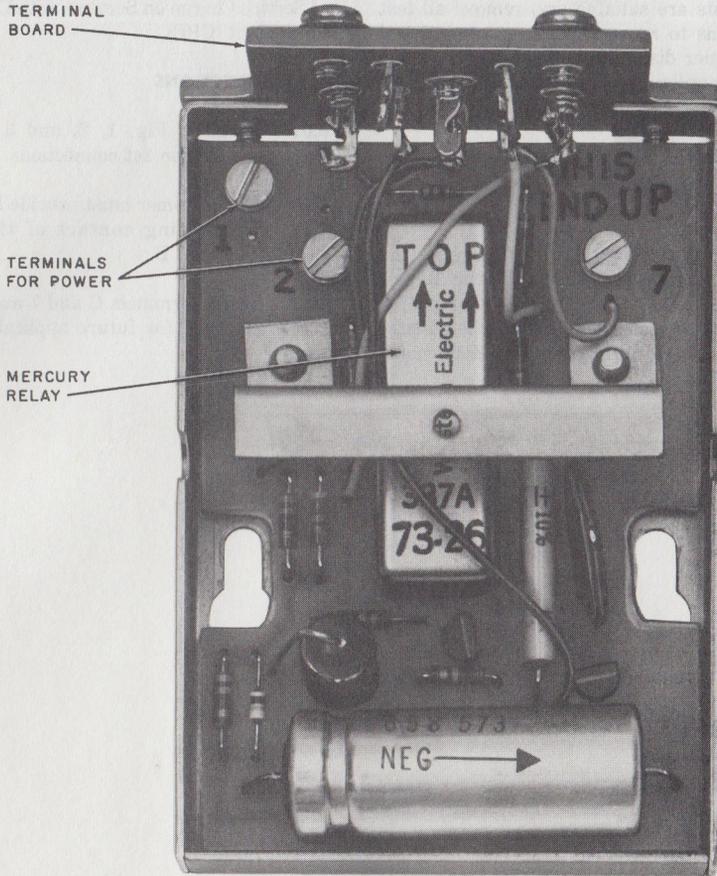


Fig. 1—23A Coupler, Front View (Cover Removed)

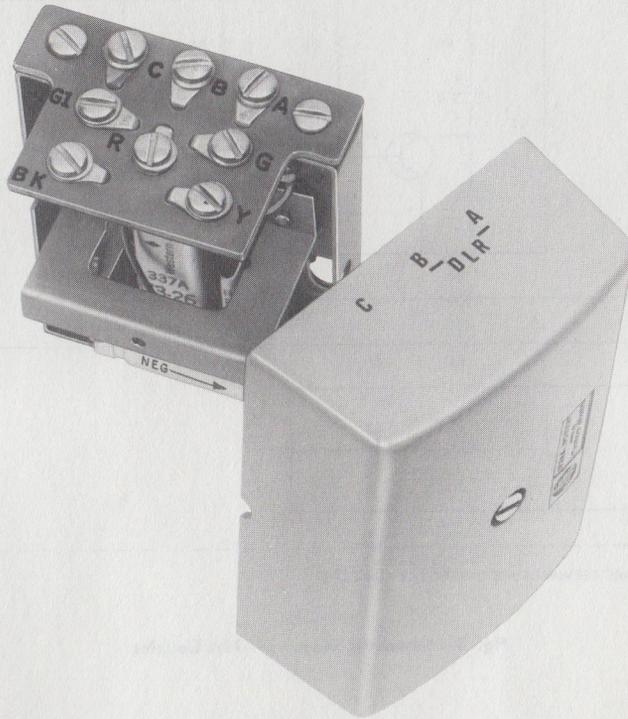


Fig. 2—23A Coupler, Top View (Cover Removed)

