MODEL 154, 154A

Powerfail Bypass Unit

FEATURES:

• Connects eight dedicated stations directly to Central Office during powerfail or major alarm on any PBX.
• Can be multiplied together if more than eight stations are required.
• Compatible with ground and loop start lines.
• Automatic ground-start option built-in.
• Calls in progress are not interrupted when power is restored.
• Activated by:
  1. Power failure
  2. Manual bypass switch
  3. Remote ground
• Two sets of auxiliary contacts: one normally open; one normally closed.
• FCC approved.
• Model 154: requires 48VDC power
  - Power connected via the 25 pin connectors.
• Model 154A: requires 24VDC power.
  - Equipped with barrel connector which accepts the Dees 368 Power Supply.
  - Power can also be connected via the 25 pin connectors.

1. DESIGN FEATURES

1.1 In the event of a power failure at the P.B.X. the Bypass Interface automatically bypasses the P.B.X. system and switches eight C.O. trunks to the pre-selected stations.

1.2 An automatic ground start function is incorporated in each channel for use with Open TIP C.O. trunks. This does not inhibit operation on loop start systems.

1.3 When bypass is no longer required by the P.B.X. a loop usage monitor circuit restores idle trunks to P.B.X. control. Active trunks are kept in use until completion of present call and are then returned to P.B.X. control.

1.4 Presence of power at the P.B.X. is indicated by a red LED light mounted on the front of the unit.

1.5 A manual switch allows local control of the Bypass. The normal position allows control by the presence of power at the P.B.X., the bypass position puts all 8 channels into the bypass mode.

1.6 The Bypass provides one auxiliary set of form A contacts and one set of form B contacts which are operated during the presence of P.B.X. power with the bypass switch in the normal position.

1.7 SWE lead can be grounded by system monitor or attendant to force Bypass mode.

1.8 Two 25 pair industry standard type 57 male connectors on the front of the unit provide all connections required for C.O. Trunks, P.B.X. Trunks, Station Telephones and P.B.X. Extensions.
Product illustration
2. SPECIFICATIONS

2.1 Power Requirements:
- 154: -40 VDC to -56 VDC, 100 mA
- 154A: -20 VDC to -28 VDC, 180 mA

2.2 Auxiliary Contact: 1.25A, 150 VDC

2.3 LoopCurrent Range: 18-120mA

2.4 Physical Dimensions:
- (1.58") High 4 cm
- (5.40") Wide 13.7 cm
- (9.25") Long 23.5 cm

2.5 Weight: (1.3 lbs.) 0.60 kg

3. INSTALLATION INSTRUCTIONS

3.1 All connections necessary for current operation are available through connectors P1 and P2.

3.2 Backboard mounting can be achieved using four No. 10 screws. To mount on BIX C.P.D.F. (customer provided distribution frame) use No. 10 machine screws.

3.3 Run two 25 pair cables from P1 and P2 on By-Pass to cross connect blocks. Tie down as shown in Fig. 1.

3.4 A type 57 connector must be wired to the cross connect block according to CA21A connection arrangement for the network interface. (Central Office Tip and Ring). See Fig. 2.

3.5 If more than one By-Pass is required (more than 8 powerfall trunks) run power to NC (V-SL) of cross connect block P2 of Unit #1. Jumper NC1 (SL-V) of cross connect block P2, Unit #1 to power (V-BR) of cross connect block P1 of 2nd By-Pass (Fig. 2 and 5).

3.6 If Bypass is powered by an AC transformer, PBX ground must be tied to Pin 24 of P2.

3.7 Run jumpers as per Fig. 2 (Example of one circuit):

3.8 If required, auto dialer for alarm situations can be tied across pins NO (V-GR) and NO1 (GR-V) of P2. Fig. 1 and 3.

3.9 To remotely activate Bypass, switch ground to pin 50 (SWE) of cross connect block P1 (Fig. 2).

3.10 For System Monitor on Northern Telecom Meridian 1™

A. NT8D22 System Monitor - NT8D46BH cable
- Ground pin 8 (LFBNR) of NT8D46BH cable
- Connect pin 7 (LFBEN) of NT8D46BH cable to pin 50 (SWE) on P1 of Dees Model 154 PFTU

NT7D15 System Monitor for System Option 21A - NT8D46BH cable
- Ground pin 9 (LFBENR) of NT8D46BH cable
- Connect pin 4 (LFBEN) of NT8D46BH cable to pin 50 (SWE) on P1 of Dees Model 154 PFTU

C. Remote Activation from M2250 Attendant Console
- Ground pin 36 of the console cable
- Connect pin 11 of the console cable to pin 25 (SWE) on P1 of Dees Model 154 PFTU

Note: All grounds should be connected together and to the main MDF ground point or other ground bode that is connected to the single point ground network of the communications system.

<table>
<thead>
<tr>
<th>PIN</th>
<th>COLOR</th>
<th>DESIGNATION</th>
<th>PIN</th>
<th>COLOR</th>
<th>DESIGNATION</th>
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<tr>
<td>26 W-BL</td>
<td>EXT. T(1)</td>
<td>26 W-BL</td>
<td>EXT. T(5)</td>
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</tr>
<tr>
<td>1 BL-WH</td>
<td>EXT. R(1)</td>
<td>1 BL-WH</td>
<td>EXT. R(5)</td>
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<tr>
<td>27 W-OR</td>
<td>STN. T(1)</td>
<td>27 W-OR</td>
<td>STN. T(5)</td>
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<tr>
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<tr>
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<tr>
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<td>C.O. R(5)</td>
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<tr>
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<tr>
<td>4 BR-W</td>
<td>TRK. R(1)</td>
<td>4 BR-W</td>
<td>TRK. R(5)</td>
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</tbody>
</table>

P1 P2
- Fig. 1
FCC REQUIREMENTS

TYPE OF SERVICE
Your 154 and 154A are designed to be used on standard device telephone lines. The 154 and 154A connect to the telephone line by means of a standard jack called the USOC RJ21X. Connection to telephone company-provided coin service (central office implemented systems) is prohibited. Connection to party lines service is subject to State tariffs.

TELEPHONE COMPANY PROCEDURES
The goal of the telephone company is to provide you with the best service it can. In order to do this, it may occasionally be necessary for them to make changes in their equipment, operations, or procedures. If these changes might affect your service or the operation of your equipment, the telephone company will give you notice, in writing, to allow you to make any changes necessary to maintain uninterrupted service.

If you have any questions about your telephone line, such as how many pieces of equipment you can connect to it, the telephone company will provide this information upon request.

In certain circumstances, it may be necessary for the telephone company to request information from you concerning the equipment which you have connected to your telephone line. Upon request of the telephone company, provide the FCC registration number and the ringer equivalence number (REN) of the equipment which is connected to your line; both of these items are listed on the equipment label. The sum of all of the REN’s on your telephone lines should be less than five in order to assure proper service from the telephone company. In some cases, a sum of five may not be usable on a given line.

FCC No. FCN 8E3-17987-OT-N
4. APPLICATIONS

4.1 Single Unit Application

In this application, a power failure, a C.P.U. failure or the manual switch in the "Bypass" position will force the interface into the bypass mode, subsequently opening the auxiliary contact.

To enable bypass in case of a C.P.U. failure, ground must be switched to Pin 50/25 (SWE) of P1.

4.2 Master-Slave Application

In the master-slave arrangement SWE, is tied to the first unit only, and the negative power supply is routed from the master to the slaves in a daisy-chain fashion. This allows master bypass switch to control all slaves as long as all slave bypass switches are in the normal position. It also allows the SWE lead from the P.B.X. to control the B.P.I. units in the same fashion.