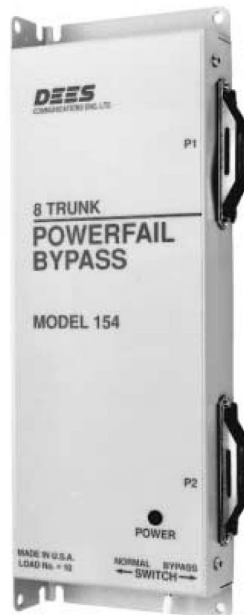


# MODEL 154, 154A, A500

## 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 fail.
    2. Manual bypass switch.
    3. Remote ground.
  - 2 sets of auxiliary contacts; one normally open, one normally closed.
  - FCC, UL, DOC, and CSA approved.
- If power supply is required with the Model 154A, order the Dees Model 193 (24 VDC Power Supply)
- 350 mA output current.
  - CSA and UL approved.



### 1. DESIGN FEATURES

- 1.01 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.
- 1.02 An automatic ground start function is incorporated in each channel for use with Open TIP C.O. trunks; this does not inhibit its operation on loop start systems.
- 1.03 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.
- 1.04 Presence of power at the P.B.X. is indicated by a red L.E.D. mounted on the front of the unit.
- 1.05 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.
- 1.06 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.
- 1.07 A ground switched by either system monitor or attendant will transfer C.O. trunks to the pre-selected stations.
- 1.08 Two 25 pair industry standard type 57 male connectors accessible on the side of the Bypass interface provide all connections required for C.O. Trunks, P.B.X. Trunks, Station Telephones and P.B.X. Extensions.

## 2. SPECIFICATIONS

- 2.01 Power Requirements:  
 A500 -40 VDC to -56 VDC, 170 mA  
 154 -40 VDC to -56 VDC, 170 mA  
 154A -20 VDC to -28 VDC, 340 mA
- 2.02 Auxiliary Contact: 1.25A 150 VDC
- 2.03 Loop Current Range: 20 - 120 mA
- 2.04 Physical Dimensions: (1.625") High 44mm  
 (4.75") Wide 122mm rev. E  
 (13.5") Long 343mm  
 Weight: 1.5 kg

## 3. INSTALLATION INSTRUCTIONS

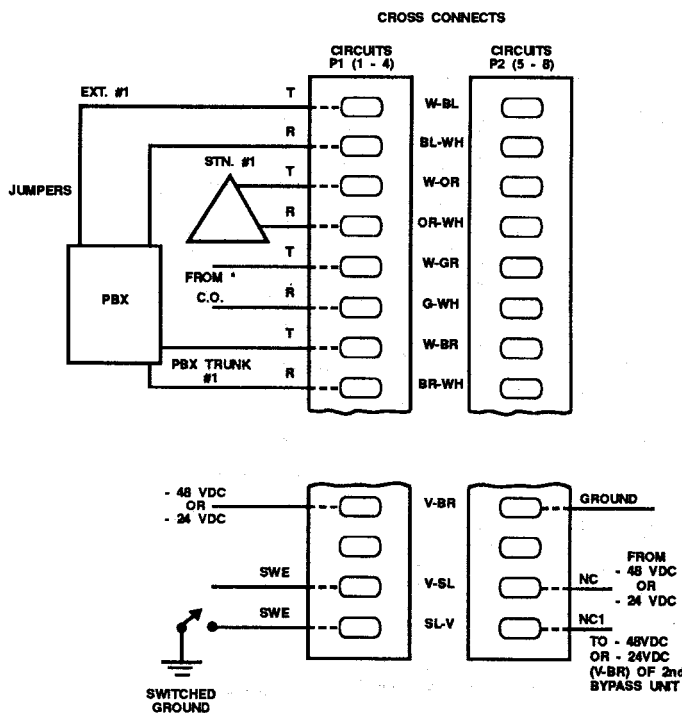
- 3.01 All connections necessary for current operation are available through connectors P1 and P2.
- 3.02 Back board mounting can be achieved using four No. 10 screws. To mount on BIX C.P.D.F. (customer provided distribution frame) use No. 10 machine screws.
- 3.03 Run two 25 pair cables from P1 and P2 on By-Pass to cross connect blocks. Tie down as shown in Fig. 1.
- 3.04 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.
- 3.05 If more than one By-Pass is required (more than 8 powerfail 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).
- 3.06 If power is supplied to Bypass by an AC transformer, P.B.X. ground must be tied to Pin 24 of P2.**
- 3.07 Run jumpers as per Fig. 2 (Example of one circuit):
- 3.08 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.
- 3.09 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's Meridian 1™
- A. NT8D22 System Monitor - NT8D46BH cable  
 - Ground pin 8 (LFBENR) of NT8D46BH cable  
 - Connect pin 7 (LFBEN) of NT8D46BH cable to pin 50 (SWE) on P1 of Dees Model 154 PFTU

- B. 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 Meridian 1™ system.

P1			P2		
PIN	COLOR	DESIGNATION	PIN	COLOR	DESIGNATION
26	W-BL	EXT. T(1)	26	W-BL	EXT. T(5)
1	BL-WH	EXT. R(1)	1	BL-WH	EXT. R(5)
27	W-OR	STN. T(1)	27	W-OR	STN. T(5)
2	OR-WH	STN. R(1)	2	OR-W	STN. R(5)
28	W-GR	C.O. T(1)	28	W-GR	C.O. T(5)
3	GR-WH	C.O. R(1)	3	GR-W	C.O. R(5)
29	W-BR	TRK. T(1)	29	W-BR	TRK. T(5)
4	BR-W	TRK. R(1)	4	BR-W	TRK. R(5)
30	W-SL	EXT. T(2)	30	W-SL	EXT. T(6)
5	SL-W	EXT. R(2)	5	SL-W	EXT. R(6)
31	R-BL	STN. T(2)	31	R-BL	STN. T(6)
6	BL-R	STN. R(2)	6	BL-R	STN. R(6)
32	R-OR	C.O. T(2)	32	R-OR	C.O. T(6)
7	OR-R	C.O. R(2)	7	OR-R	C.O. R(6)
33	R-GR	TRK. T(2)	33	R-GR	TRK. T(6)
8	GR-R	TRK. R(2)	8	GR-R	TRK. R(6)
34	R-BR	EXT. T(3)	34	R-BR	EXT. T(7)
9	BR-R	EXT. R(3)	9	BR-R	EXT. R(7)
35	R-SL	STN. T(3)	35	R-SL	STN. T(7)
10	SL-R	STN. R(3)	10	SL-R	STN. R(7)
36	BK-BL	C.O. T(3)	36	BK-BL	C.O. T(7)
11	BL-BK	C.O. R(3)	11	BL-BK	C.O. R(7)
37	BK-OR	TRK. T(3)	37	BK-OR	TRK. T(7)
12	OR-BK	TRK. R(3)	12	OR-BK	TRK. R(7)
38	BK-GR	EXT. T(4)	38	BK-GR	EXT. T(8)
13	GR-BK	EXT. R(4)	13	BK-GR	EXT. R(8)
39	BK-BR	STN. T(4)	39	BK-BR	STN. T(8)
14	BR-BK	STN. R(4)	14	BR-BK	STN. R(8)
40	BK-SL	C.O. T(4)	40	BK-SL	C.O. T(8)
15	SL-BK	C.O. R(4)	15	SL-BK	C.O. R(8)
41	Y-BL	TRK. T(4)	41	Y-BL	TRK. T(8)
16	BL-Y	TRK. R(4)	16	BL-Y	TRK. R(8)
42	Y-OR	SPARE	42	Y-OR	SPARE
17	OR-Y	SPARE	17	OR-Y	SPARE
43	Y-GR	SPARE	43	Y-GR	SPARE
18	GR-Y	SPARE	18	GR-Y	SPARE
44	Y-BR	SPARE	44	Y-BR	SPARE
19	BR-Y	SPARE	19	BR-Y	SPARE
45	Y-SL	SPARE	45	Y-SL	SPARE
20	SL-Y	SPARE	20	SL-Y	SPARE
46	V-BL	SPARE	46	V-BL	SPARE
21	BL-V	SPARE	21	BL-V	SPARE
47	V-OR	SPARE	47	V-OR	SPARE
22	OR-V	SPARE	22	OR-V	SPARE
48	V-GR	SPARE	48	V-GR	NO
23	GR-V	SPARE	23	GR-V	NO 1
49	V-BR	POWER (NEG.)	49	V-BR	POWER (POS.)
24	BR-V		24	BR-V	PBX GROUND *SEE 3.06
50	V-SL	SWE	50	V-SL	NC
25	SL-V	SWE	25	SL-V	NC1

Fig. 1



\* To meet CS03 standards, connection to the Central Office pair must be via Type 57 connector according to CA21A connection arrangements

Fig. 2

## FCC AND TELEPHONE COMPANY PROCEDURES AND REQUIREMENTS

In order to connect this system to the private line network, provide the telephone company with:

- the quantities and USOC numbers of the required jacks (shown below);
- the sequence in which the trunks are to be connected;
- the facility interface codes by position; and
- the ringer equivalence number or service code, as applicable, by position.

Type of Interface	USOC Jack Connector	Ren/Service Code	Facility Interface Code
2-Wire Loop	RJ21X	0.0B	02LS2
2-Wire Ground	RJ21X	0.0B	02GS2

## IF PROBLEMS ARISE

If any of your telephone equipment is not operating properly, you should immediately remove it from your telephone line, as it may cause harm to the telephone network. If the telephone company notes a problem, they may temporarily discontinue service. When practical, they will notify you in advance of this disconnection. If advance notice is not feasible, you will be notified as soon

as possible. When you are notified, you will be given the opportunity to correct the problem and informed of your right to file a complaint with the FCC.

In the event repairs are ever needed on your Bypass, they should be performed by Dees Communications or an authorized representative of Dees Communications. For information contact:

**Dees Communications Corporation**  
 4130 - 148th Avenue NE  
 Redmond, Washington, USA, 98052  
 Tel: 1-800-654-5604 or 425-869-1963  
 Fax: 425-869-0717  
[www.dees.com](http://www.dees.com)

## 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

### 4.01 Single Unit Application

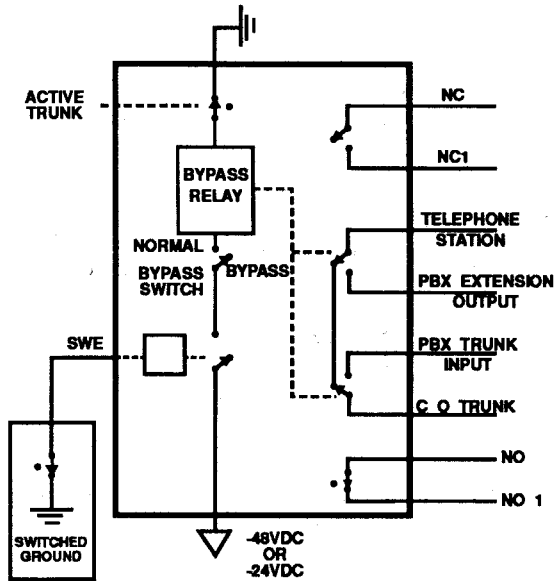


Fig. 3

Interface shown in bypass mode

In this application either 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.

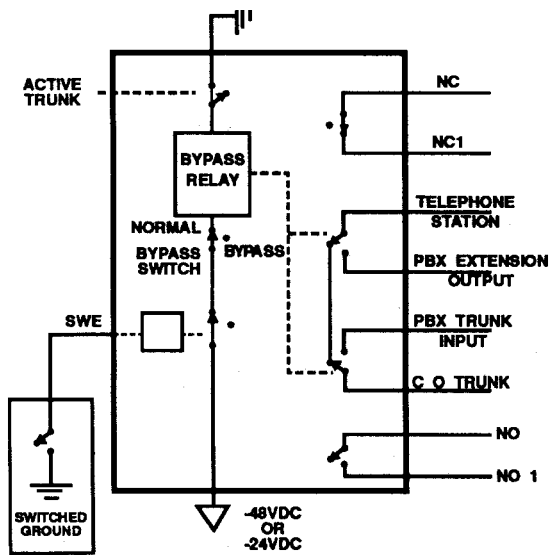


Fig. 4

Interface shown with one trunk active at time of P.B.X. power restoration

### 4.02 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.

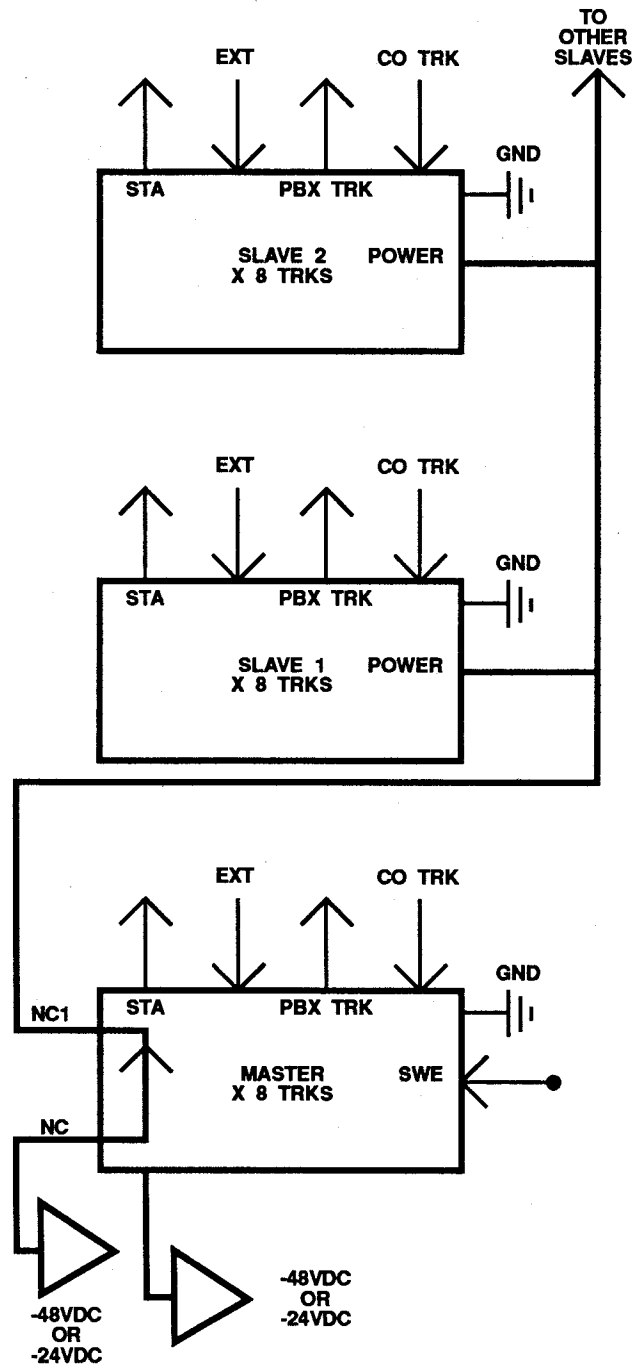


Fig. 5