OPERATION AND MAINTENANCE
TERMINAL STATION
1×N FREQUENCY DIVERSITY
DR 6/11-135EC
DC POWER ALARM

CONTENTS PAGE

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1. GENERAL

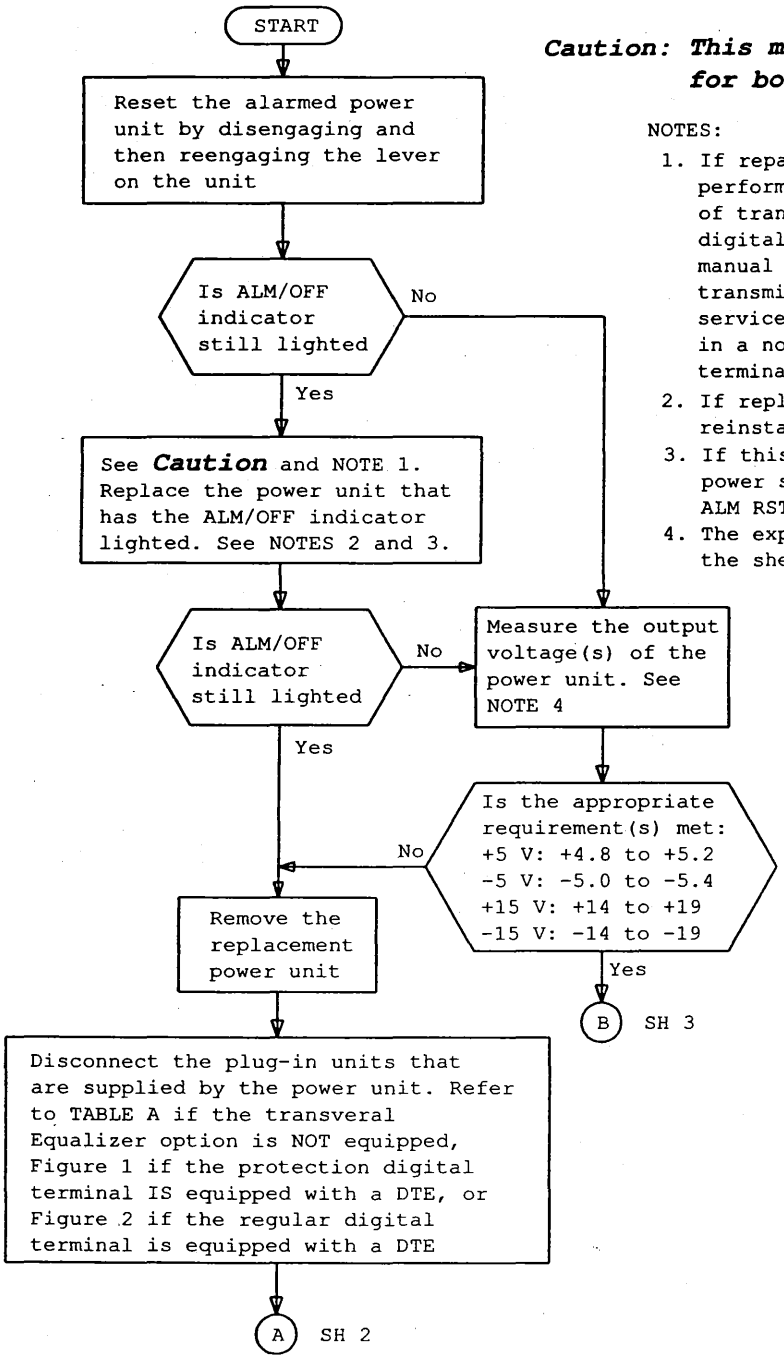
The following flowchart references local equipment indications and any necessary tests that will help determine the source of a power problem. When a unit has failed, refer to the TERMINAL tab under the REPLACEMENT PROCEDURES tab for information to replace the failed unit. If tests are necessary, refer to TERMINAL PROCEDURES under the TEST AND ADJUSTMENTS tab.

Warning: To prevent ESD (electrostatic discharge) damage to a plug-in unit, ensure all ESD precautions are followed.

Before using this flowchart, verify that the –24 V DC or –48 V DC input is good. A power failure in the line terminal bay is indicated by a lighted ALM/OFF indicator on the failed power unit. The power unit is shut down when the ALM/OFF indicator is lighted. It will remain shut down until it is reset by pulling the latch lever down, without disengaging the plug-in unit, and pushing it up again. The power unit voltages should always be measured with the load connected, that is, plug-in units installed.

1.1 UPDATE INFORMATION

This practice is reissued to add power distribution block diagrams of the regular and protection shelves with a digital transversal equalizer (DTE). Figures 1 and 2 have been added. This practice is used in binders 421-102-003AC, 421-102-004AC, 421-102-090, and 421-102-100.

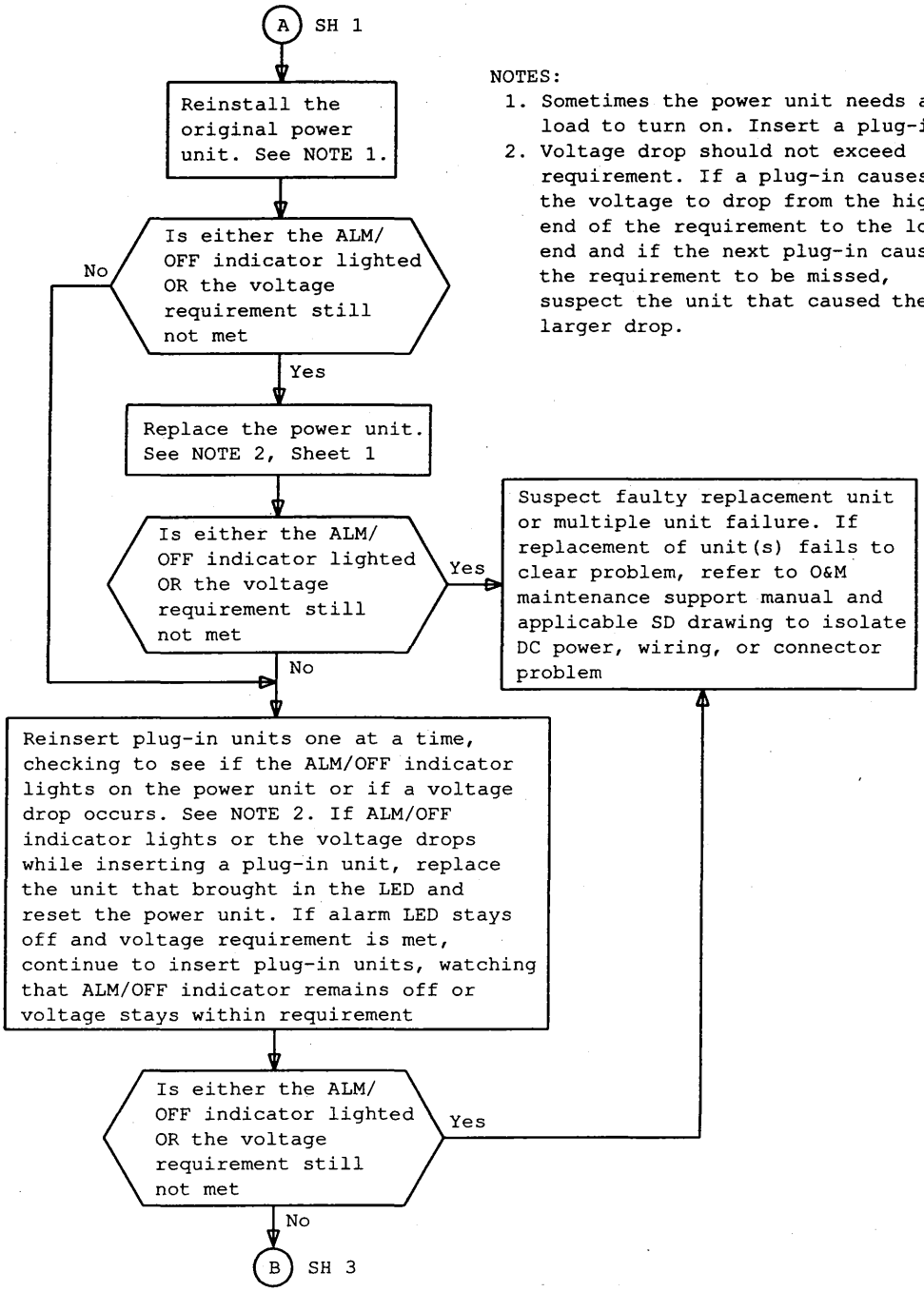


Caution: This may be a service-affecting procedure for both directions of transmission.

NOTES:

1. If repairing a regular digital terminal shelf, perform a manual span switch for BOTH directions of transmission. If repairing the protection digital terminal or growth shelf, perform a manual protection lockout for ***both*** directions of transmission. If repairing the control and service channel shelf, ensure that the system is in a normal, nonswitched state. Refer to the terminal replacement procedures.
2. If replacement unit does not correct problem, reinstall original unit.
3. If this is a control and service channel shelf power supply, it may be necessary to operate the ALM RST on the RCV STAT unit to clear any alarms.
4. The expected output voltage(s) is identified on the shelf label below each power unit.

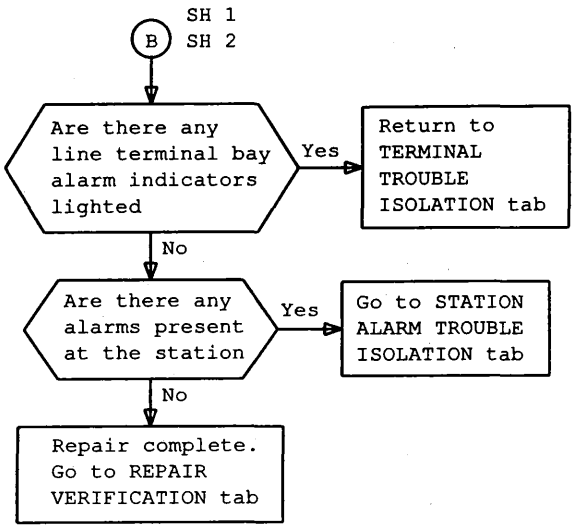
Flowchart 1–Line Terminal Bay DC Power Alarm-Clearing (Sheet 1 of 3)



NOTES:

1. Sometimes the power unit needs a load to turn on. Insert a plug-in.
2. Voltage drop should not exceed requirement. If a plug-in causes the voltage to drop from the high end of the requirement to the low end and if the next plug-in causes the requirement to be missed, suspect the unit that caused the larger drop.

Flowchart 1–Line Terminal Bay DC Power Alarm-Clearing (Sheet 2 of 3)



Flowchart 1–Line Terminal Bay DC Power Alarm-Clearing (Sheet 3 of 3)

TABLE A
DC POWER UNIT APPLICATIONS

SHELF NAME	POWER UNIT DESIGNATION	VOLTAGE SUPPLIED	UNIT SUPPLIED	SHELF POSITION NUMBER FROM LEFT
1X10 GROWTH	PS1 (In Growth Shelf)	-5	GR LN SELR GR LN DISTN	7-9 10-12
	PS1 (In Control and Service Channel Shelf)	+5	SPAN DIR GR LN SELR	1-6 and 13-18 7-9
CONTROL AND SERVICE CHANNEL	PS1	+5	All units in control and service channel shelf	
			SPAN DIR GR LN SELR SPAN DIR	1-6, 7-9, 13-18 } in Growth Shelf

TABLE A (Contd)
DC POWER UNIT APPLICATIONS

SHELF NAME	POWER UNIT DESIGNATION	VOLTAGE SUPPLIED	UNIT SUPPLIED	SHELF POSITION NUMBER FROM LEFT
Regular Digital Terminal	PS1 (Upper Half Receiving)	-5.2	EC RECDR	8
			ERROR LOCTR	9
			ERROR CORR	10
			TERM FRMR	11
			LINE SW	12
			FRAME RMVR	13
			VMR & CODER	14, 15, 16
			BLUE GEN	17
	PS2 (Upper Half Receiving)	+5	CRLTR	4
			64QAM DECSN	6, 7
			EC RECDR	8
			ERROR LOCTR	9
			ERROR CORR	10
			TERM FRMR	11
			LINE SW	12
			FRAME RMVR	13
			VMR & CODER	14, 15, 16
			BLUE GEN	17
			CHAN CONTR	18
	PS3 (Lower Half Transmitting)	+5	B3ZS DCODR	1, 2, 3
			FRAME GEN	4
			EC CODER	6
			CRC CODER	7
			D/A CONVR	8
		+15, -15	64QAM MOD	10
		-15	D/A CONVR	8
	PS4 (Upper Half Receiving)	+15, -15	64QAM DEMOD	1
			TRNSV FLT	2, 3
			64QAM DECSN	6, 7
		-5.2	CRLTR	4
			64QAM DECSN	6, 7
		-15	BLUE GEN	17
	PS4 (Lower Half Transmitting)	-5.2	B3ZS DCODR	1, 2, 3
			FRAME GEN	4
			EC CODER	6
			CRC CODER	7
			D/A CONVR	8

TABLE A (Contd)
DC POWER UNIT APPLICATIONS

SHELF NAME	POWER UNIT DESIGNATION	VOLTAGE SUPPLIED	UNIT SUPPLIED	SHELF POSITION NUMBER FROM LEFT
Protection Digital Terminal	PS1 (Upper Half Receiving)	-5.2	EC RECDR	8
			ERROR LOCTR	9
			ERROR CORR	10
			TERM FRMR	11
			LINE ALNMT	12
			FRAME RMVR	13
			VMR & CODER	14, 15, 16
			BLUE GEN	17
	PS2 (Upper Half Receiving)	+5	CRLTR	4
			64QAM DECSN	6, 7
			EC RECDR	8
			ERROR LOCTR	9
			ERROR CORR	10
			TERM FRMR	11
			LINE ALNMT	12
			FRAME RMVR	13
			VMR & CODER	14, 15, 16
			BLUE GEN	17
			CHAN CONTR	18
	PS3 (Lower Half Transmitting)	+5	B3ZS DCODR	1, 2, 3
			FRAME GEN	4
			LINE SELR	5
			EC CODER	6
			CRC CODER	7
			D/A CONVR	8
		+15, -15	64QAM MOD	10
		-15	D/A CONVR	8
	PS4 (Upper Half Receiving)	+15, -15	64QAM DEMOD	1
			TRNSV FLT	2, 3
			64QAM DECSN	6, 7
		-5.2	CRLTR	4
			64QAM DECSN	6, 7
		-15	BLUE GEN	17
	PS4 (Lower Half Transmitting)	-5.2	B3ZS DCODR	1, 2, 3
			FRAME GEN	4
			LINE SELR	5
			EC CODER	6
			CRC CODER	7
			D/A CONVR	8

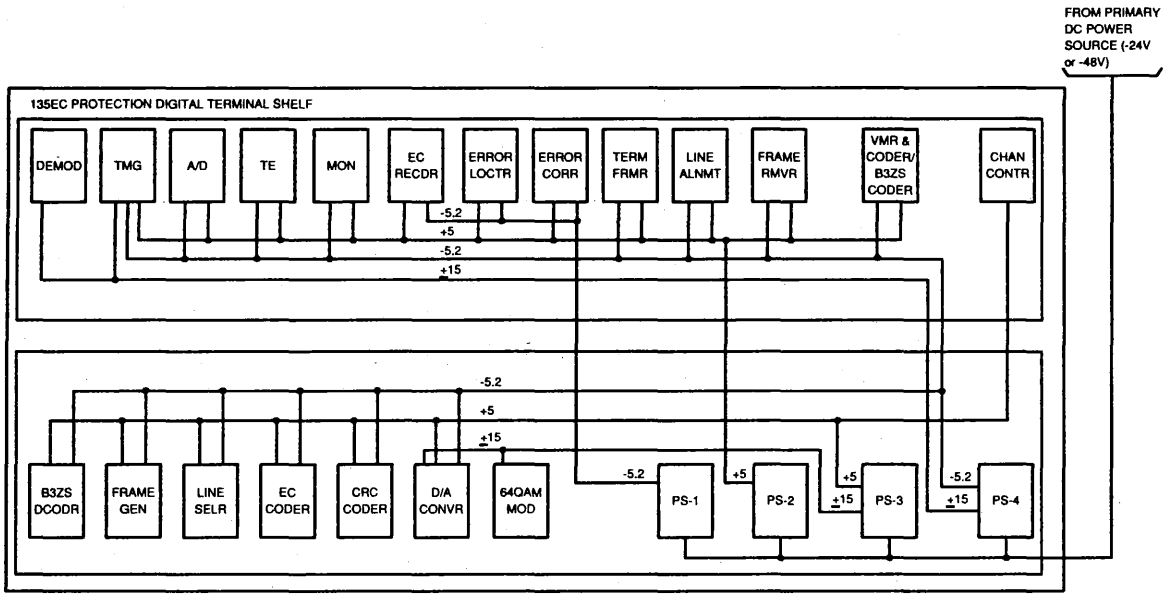


Figure 1–135EC Protection Digital Terminal Shelf with Digital TE Power Distribution

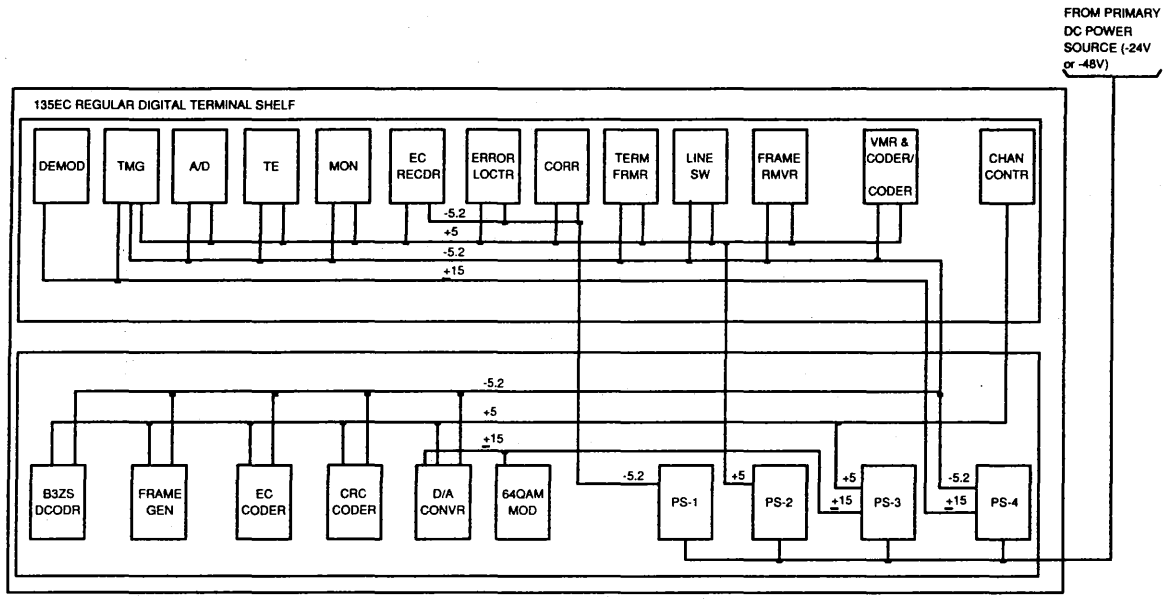


Figure 2–135EC Regular Digital Terminal Shelf with Digital TE Power Distribution