



APS Shelf Power/Alarm Card Replacement Guide

Part Number 45-00093 Revision 1.0

This procedure describes the steps that should be followed to properly install a replacement Power and Alarm card in an APC chassis when all card slots are occupied. The Power and Alarm card is located at the extreme left side of the TxPORT APS chassis (viewed from front of chassis). The installer should read and understand all of the installation procedures shown in the following paragraphs before proceeding.

1. Before attempting to replace the Power and Alarm card, the installer should verify that he has the following materials and equipment on hand. After verifying that all materials are present, proceed to Step 2.

- Voltmeter
- Wiring tie wraps
- Spare 23 A fuse position and a 3 A, Type 70 fuse
- Replacement Power and Alarm card (Revision 2.63 or higher). The revision is printed at the top of the front panel CLEI bar code
- TxPORT power/jumper cable (ten foot black and white jumper cable with slide-on connectors)

2. Verify that the front panel of the installed Power and Alarm card does not indicate any blown fuses (A or B) and that all cards in the shelf appear normal.

3. Attach the provided TxPORT power/jumper cable to the rear wiring pins of the 1050 APC equipment shelf and to the selected 23 A fuse -48 VDC position. This wiring connection will provide a temporary -48 VDC power arrangement to the APC shelf while the Power and Alarm card replacement is performed.

Caution: The installer must proceed with caution and pay careful attention to all connections and wiring polarity while implementing the temporary -48 VDC wiring connections from the rear panel of the APC shelf to the spare 23 A fuse position. Failure to proceed with care could result in a loss of power to the APC shelf.

To install the temporary -48 VDC wiring connection from the APC shelf to the 23 A central office fuse, perform the following:

- 1) Remove the fuse from the temporary 23 A fuse position.
- 2) Connect the black lead of the power/jumper cable to the -48 VDC position of the temporary 23 A fuse.
- 3) Connect the white lead of the power/jumper cable to the -48 return position of the temporary 23 A fuse.
- 4) Connect a voltmeter (configured for reading DC volts) to the slide-on connector end of the cable as follows:
Common (-) probe connected to the white lead of the slide-on connector end of the power/jumper cable
Positive (+) probe connected to the black lead of the slide-on connector of the power/jumper cable
- 5) After connecting the voltmeter, insert a fuse in the temporary 23 A position. The voltmeter should indicate -48 VDC. If the meter indicates +48 VDC, the wiring at the 23 A block is reversed and the installer should correct and confirm that the voltage reading is -48 VDC.

Caution: Do not proceed until the correct polarity is present at the power/jumper cable.

- 6) Once -48 VDC is present at the end of the power/jumper cable, **remove** the fuse from the temporary 23 A fuse block.
- 7) Next, locate C15 at the rear of the 1050 APC chassis (see Figure 1).
- 8) Locate the bottom right pin of C15 as viewed from the chassis rear. This is pin 35, -48 VDC.

- 9) Carefully slide the **BLACK** lead slide-on connector onto wire wrap pin 35 of C15 (see Figure 1). If the connection feels loose, remove and gently compress the connector end slightly using a pair of flats. Once the slide-on connector is attached and the installer is confident that the connection is firm, proceed to the next step.

Caution: Take care not to short any wiring connections while making the power/jumper cable attachment.

- 10) Next, carefully slide the **WHITE** lead slide-on connector onto wire wrap pin 33 of C15 (see Figure 1). If the connection feels loose, remove and gently compress the connector end slightly using a pair of flats. Once the slide-on connector is attached and the installer is confident that the connection is firm, proceed to the next step.
- 11) After both the black and white leads are attached, physically secure the power/jumper cable wiring using one or more tie wraps. This will insure that the leads are not torn loose.
- 12) Verify that the front panel of the Power and Alarm card does not indicate any blown fuses (A or B) and that all cards in the shelf appear normal.
- 13) Insert a 3 A, Type 70 fuse in the temporary 23 A fuse position.
- 14) After powering the 23 A temporary fuse position, verify that the front panel of the Power and Alarm card does not indicate any blown fuses (A or B) and that all cards in the shelf appear normal.
- 15) Before swapping out the old Power and Alarm card with a replacement, set the chassis address switches on the replacement card so that they match the address DIP values set on the old card (see Figure 2, Item #1).

Caution: Failure to properly set the chassis address of the Power and Alarm card will prevent the APS manager from communicating with this shelf.

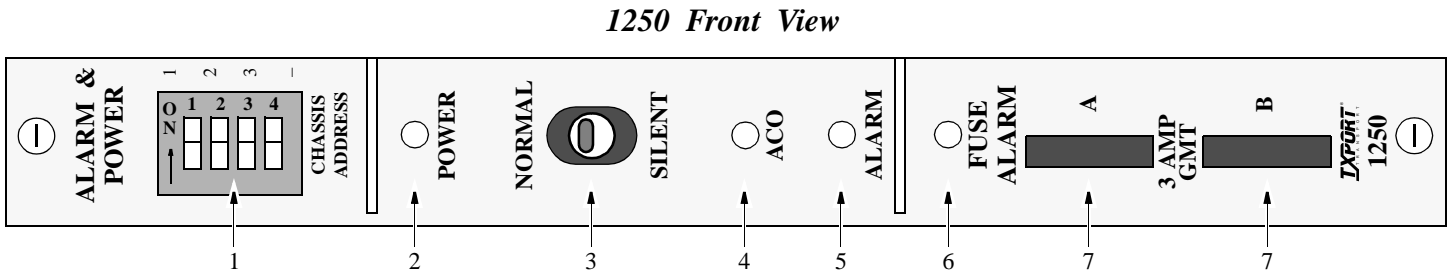
- 16) After the chassis address DIP switches have been properly set, verify that the 3 A fuses in the replacement card (Fuse A and Fuse B) are in place and not blown (fuse type is GMT, 3 A)
- 17) The installer is now ready to remove the old Power and Alarm card and replace it with the new card. To remove the old card, unscrew the top and bottom retaining screws and remove. After the card is removed, simply insert the new card into the card guides and firmly push the card in until it is seated into the backplane connector. Then secure the card in place using the two retaining screws.
- 18) After replacing the card, verify that the Power and Alarm card has no fuse alarm indications and that the other cards in the chassis appear to be operating normally.
- 19) After installing the replacement Power and Alarm card and verifying that it is operating properly, remove the fuse from the temporary 23 A fuse position.
- 20) After removing the fuse, carefully remove (one at a time) the **BLACK** and **WHITE** slide-on connectors from pin 35 and pin 33.
- 21) Remove the power/jumper leads from the 23 A temporary fuse block.
- 22) The card replacement is now complete.

The TxPORT power/jumper cable and the old Power and Alarm card should be returned as soon as possible for rework. This material will then be reused. Make sure that the power/jumper cable and the old Power and Alarm card is placed back in the original container and return to:

AT&T Central Stock Plug-In Warehouse

Eastpoint, Georgia

Figure 2 Power and Alarm Card Functions



1250 Controls and Indicators

Index	Indicator	Description
1	CHASSIS ADDRESS	DIP switch which provides up to 8 chassis addresses (refer to the instructions below).
2	POWER	Indicates that power is being supplied to the unit.
3	NORMAL/SILENT	Normal enables the ACO (Alarm Cut Off). Silent disables the ACO.
4	ACO	The Alarm Cut Off LED indicates that the alarm relay contacts are disabled.
5	ALARM	This LED indicates that an APS shelf alarm has occurred.
6	FUSE ALARM	This LED indicates that a bus fuse has blown.
7	3 AMP GMT	Two 3 Amp fuse for power source A/B.

NOTES: 1250 cards that are Rev. 2.63 or higher add the capability to maintain alarm card functions (front panel indicators, switch functions, and relay operation) even when Fuse A and B are open. This is possible because these cards have the alarm circuitry wired to the ‘hot’ side of the incoming A and B external power source(s). In early revisions, the 1250 alarm functions were only operational if one or more of the front panel fuses were functional (not blown).

Earlier versions of the 1250 card were called 1555P cards. The primary functions of both cards are the same.

1557 Chassis Addresses

Chassis Address Selection

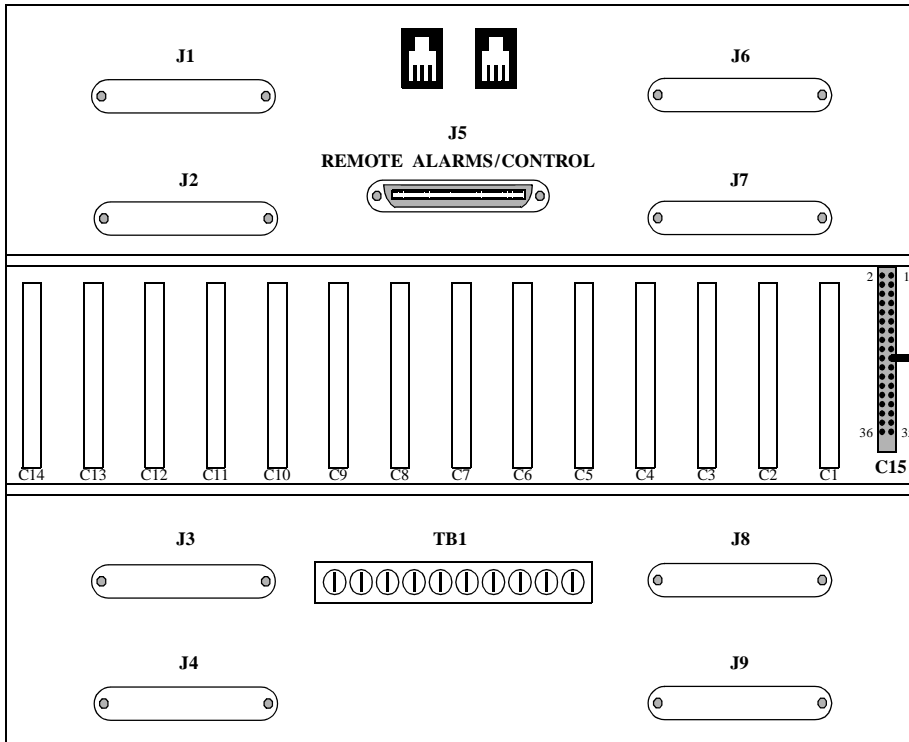
Each APS chassis must be assigned a block of addresses for its 1557 APS cards so that the 1559 APS Manager may communicate with them. The DIP switch located on the front panel of the 1250 Alarm and Power Card is used to provide up to 8 chassis addresses. These addresses are used by the APSM to poll and send commands to the 1557 cards.

Three out of the four switches (S2, S3, and S4) are set to one of the 8 possible address codes as shown in the table to the right. The DIP switch positions are number S1 through S4, with S1 on top and S4 on bottom. Note that S1 is not used and must remain open to 0, which is the left switch position.

The first unit address (1557 card) in the chassis is the base address plus 1. For example, if S2, S3, and S4 were all set to 0, the first unit address in the chassis would be ‘1’ (0 + 1).

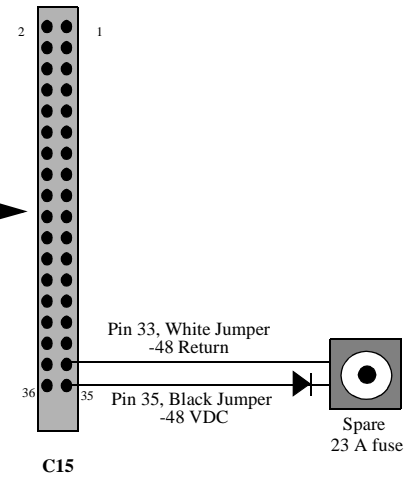
Chassis Number	Base Address	S2	S3	S4
1	0 to 27	0	0	0
2	32 to 59	0	0	1
3	64 to 91	0	1	0
4	96 to 123	0	1	1
5	128 to 155	1	0	0
6	160 to 187	1	0	1
7	192 to 219	1	1	0
8	224 to 251	1	1	1

Figure 1 1050 Chassis Rear View



Notes for wiring connections to attach external -48 VDC and Return to APC shelf.

1. Attach slide-on connector (black lead) to wire wrap pin 35 of connector C15. Attach other end to -48VDC lead of 23 A fuse.
2. Attach slide-on connector (white lead) to wire wrap pin 33 of connector C15. Attach other end to -48 Return lead of 23 A fuse.
3. Make sure fuse rating of 23 A fuse is 3 amps, slow blow.
4. After making connections fuse 23 A position with 3 amp slow blow fuse.



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 205-772-3770
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Pin	C15 Function
1	-48 VDC - Primary
5	48 V RTN
9	-48 VDC - Secondary
18	Alarm NC
19	Alarm NO
20	Alarm Common
29	NMS In
30	NMS Out
34	NMS Ground
31	-48V DC, Secondary Bus
33	-48 Return, Return
35	-48V DC, Primary Bus