
A6 CHANNEL BANK—UNITIZED TERMINAL EQUIPMENT
J98626() FRAMES
EQUIPPING AND FUSING THE FRAMES
COMMON EQUIPMENT
ANALOG MULTIPLEX TERMINAL EQUIPMENT

This section provides procedures for equipping and fusing the A6 channel bank unitized terminal equipment (UTE) frames prior to being placed in service and for adding channels, channel banks, or carrier failure alarm (CFA) protection to partially-equipped in-service frames.

Note 1: The fuses and their associated circuitry used in the A6 UTE frames are listed in Table A; those used in the A6 auxiliary carrier supply are listed in Table D.

Note 2: Some J68929 plug-in units for the A6 channel bank have been rated MD and may be replaced by corresponding J68954 units.◀

Note 3: If any of the requirements in the following charts are not met after completing the recommended corrective steps, check the frame wiring.

Caution 1: *The steps in the following charts should be performed in the given order.*

Caution 2: *The A6 carrier supply generator (J68929AL) and the A6 channel bank -12 volt regulator (J68929AH or AW) should never be inserted or removed while the -24 volt input is applied. Remove the applicable fuse first.*

This section is reissued to change the title, add a note and applicable J codes for J68954 plug-in units, and provide a safer method of testing fuse alarms. Arrows are used to indicate significant changes.

CHART	PAGE
1—Initial Installation—A6 UTE Frames	3
2—Initial Installation—A6 Auxiliary Carrier Supply	19
3—Initial Installation—CFA Auxiliary Carrier Supply	23
4—Adding Channels to Partially-Equipped Banks	26

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CHART	PAGE
5—Adding Channel Banks to Partially-Equipped Frames	27
6—Adding a CFA Carrier Supply to In-Service Frames	29
7—Adding or Changing CFA Protection to Channel Banks	31

CHART 1

INITIAL INSTALLATION
A6 UTE FRAMES

STEP	PROCEDURE
	<p><i>At the regular frames:</i></p> <p>Note 1: Normally, the A6 UTE layout consists of frames (or sets of frames) arranged in mutually-protected pairs arbitrarily designated regular and alternate; neither pair has priority. Each frame (or set of frames) is served by a carrier supply and a primary distribution panel that provides protection for both frames (or sets of frames) in the event the carrier supply in one frame fails. Provision is also made for an auxiliary carrier supply (Chart 2) to protect the regular supply where this mutual protective arrangement is not provided.</p> <p>Note 2: Similarly, each frame (or set of frames) is served (on an optional basis) by a CFA carrier supply and associated primary and secondary distribution circuits and may be protected on a regular-and-alternate or regular-and-auxiliary basis.</p>
1	Ensure that no fuses or plug-in units are installed.
2	Inspect the connectors in the mounting shelves, from both front and rear, to ensure that no contacts are bent or misaligned.
3	Insert all fuses in the fuse panels on the J98626() frame. (See Fig. 1 and Table A.)
	<p>Requirement: ♦No fuses blow.</p> <p>Note: Blown-fuse indications are:</p> <p>A colored tip protruding through the center of the applicable fuse holder cap.♦</p>
4	<p>If the requirement of Step 3 is not met,</p> <p>(a) Correct any trouble in the wiring or connectors associated with the blown fuse.</p> <p>Note: Use Table A as a guide.</p> <p>(b) Replace the blown fuse with a spare.</p>
5	Install all J87304A power converters or 116A power units in the J98626() frame.
	<p>Note: Before inserting any plug-in unit in a slot, ensure that it is the unit specified for that slot. Then remove the connector protection cap from the plug-in unit and inspect the connector for bent or misaligned contacts.</p>

CHART 1 (Contd)

STEP

PROCEDURE

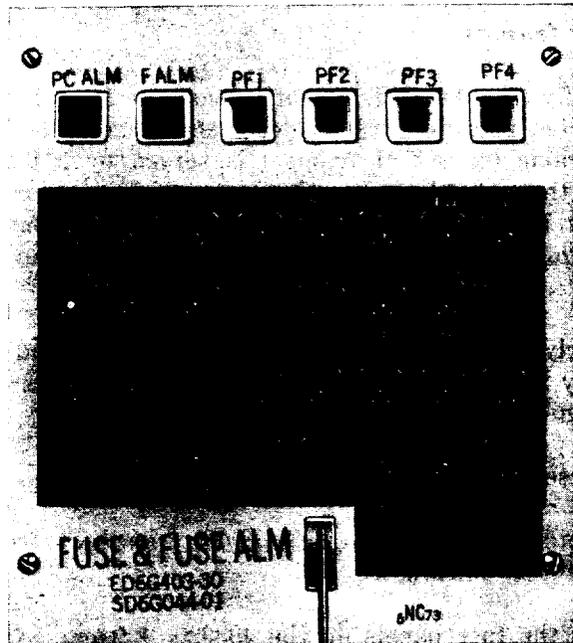


Fig. 1—ED-6G403 Fuse and Fuse Alarm Panel

- Requirement:**
- ♦(a) No fuses blow.
 - (b) The CARR FAIL and REG GEN FAIL lamps on the J68929AE (L1 and L2) panel (Fig. 2) are lighted.

- Note:** Blown fuse indications are:
- (a) A lighted () ALM lamp on the ED-6G403 or ED-7C037 panel.
 - (b) A colored tip protruding through the center of the applicable fuse holder cap.♦

- 6 If the requirement of Step 5 is **not** met,
- (a) Replace the unit associated with the blown fuse with a spare (Table A).
 - (b) Replace the blown fuse with a spare.
- 7 If the requirement of Step 5 **cannot** be met,
- (a) Reinsert the unit removed in Step 6(a).

◆ TABLE A ◆

FUSE APPLICATION IN THE A6 UTE [J98626() FRAMES]

FUSE					PROVIDES PROTECTION FOR
DESIGNATION	TYPE	COLOR CODE	VALUE	CIRCUIT	
ALM	70A	White	1 1/3	48V	Alarm Circuit
CG()	70B	Orange	2A	48V	Carrier Group Conditioning Units in Groups ()
CPT	70G	Red	1/2A	48V	Communications Panel
FIL	70D	Green	5A	48V	-48 Volt Filter Capacitor
LP	70E	Yellow	0.18A	48V	MJ and MN Alarm Lamp Circuits
MAN ACS	70H	Brown	3/4A	48V	Manual Access Panel
MC()	70H	Brown	3/4A	48V	Maintenance Connectors No. ()
P()	70D	Green	5A	48V	Power Converters No. ()
SB()	70G	Red	1/2A	48V	R() Limiting Resistors — SB Leads No. ()
TB()	70A	White	1 1/3A	48V	R() Limiting Resistors & Aux Sig Units — TB Leads No. ()
CFA	70A	White	1 1/3A	24V	CFA pilot, carrier, and 392 kHz Generators
CS1	70B	Orange	2A	24V	Regular Carrier Supply -12 Volt Regulator
CS2	70A	White	1 1/3A	24V	Transfer & Logic and Channel Carrier Amplifiers (12)
CS3	70G	Red	1/2A	24V	Carrier Supply Generator
CS4	70G	Red	1/2A	24V	Transfer & Logic and Channel Bank Carrier Amplifier
CS5	70H	Brown	3/4A	24V	Transfer & Logic and Channel Bank Carrier Alarm Detector
F() or FB()	70A	White	1 1/3A	24V	Channel Bank J68929AW -12 Volt Regulator
F()	70B	Orange	2A	24V	Channel Bank J68929AH -12 Volt Regulators
F()	70B	Orange	2A	24V	F() Signaling Units and 2600-Hz Tone Supply
FIL()	70D	Green	5A	24V	-24 Volt Filter Capacitors No. ()
P()	MDM	None	10A	24V	116A Power Units No.()
PA()	70G	Red	1/2A	24V	116A Power Unit Alarm Circuits No. ()
PF()	70G	Red	1/2A	24V	Power Converter Failure Alarm Circuits No. ()
PS	70G	Red	1/2A	24V	CFA Pilot/Carrier Switch
1W	70G	Red	1/2A	24V	CFA Carrier Switch
CARR	70H	Brown	3/4A	12V	Channel Bank Carrier Amplifier and Carrier Supply Generator
FP1*	70H	Brown	3/4A	12V	Alternate Carrier Supply -12 Volt Regulator
FR()	70H	Brown	3/4A	12V	Channel Carrier Amplifiers No. ()
RS()	70K	Violet & White	1/4A	Ringing Supply	Resistance-Lamp Circuits No. ()

*Located on the J68929AE (L1&L2) Carrier Distribution Panel.

CHART 1 (Contd)

STEP	PROCEDURE
	<ul style="list-style-type: none">(b) Correct any trouble in the wiring associated with the applicable J87304A power converter.(c) Replace the blown fuse with a spare.
8	<p>◆Insert a blown fuse in each fuse holder (one at a time) as designated in Table B.◆</p> <p>Requirement: Lamp and alarm indications as listed in Table B.</p>
9	If the requirements of Step 8 are not met, check for trouble in the fuse alarm circuit.
10	<p>Insert (one at a time) all plug-in units, except the channel bank and carrier supply units.</p> <p>Requirement: No fuses blow.</p>
11	<p>If the requirement of Step 10 is not met,</p> <ul style="list-style-type: none">(a) Replace the unit that, when inserted, caused a fuse to blow (Table A).(b) Replace the blown fuse with a spare.
12	<p>If the requirement of Step 10 cannot be met,</p> <ul style="list-style-type: none">(a) Reinsert the unit removed in Step 11(a).(b) Correct any trouble in the wiring associated with the blown fuse.(c) Replace the blown fuse with a spare.
13	Remove fuses CS1 and F1 to F14 (24-volt circuit), as applicable, from the fuse panels.
14	<p>Insert fuse FP1 in the J68929AE (L1 and L2) carrier distribution panel (Fig. 2).</p> <p>Requirement: Fuse FP1 does not blow.</p> <p>Note: Blown fuse FP1 indications are:</p> <ul style="list-style-type: none">(a) A lighted FUSE ALM lamp on the J68929AE (L1 and L2) panel(b) A colored tip protruding through the center of the FP1 fuse holder cap.
15	<p>If the requirement of Step 14 is not met,</p> <ul style="list-style-type: none">(a) Correct any trouble in the wiring associated with the blown fuse FP1.(b) Replace the blown fuse FP1 with a spare.

CHART 1 (Contd)

◆TABLE B◆

FUSE ALARM INDICATIONS IN J98626() FRAMES

FUSE DESIGNATION	CIRCUIT	LIGHTED LAMP	OFFICE ALARM
ALM*	48V	F ALM	Minor
ALM	48V	MN	Minor
CG()	48V	MN	Minor
CPT	48V	MN	Minor
FIL	48V	MN	Minor
LP†	48V	MN	Minor
MAN ACS	48V	MN	Minor
MC()	48V	MN	Minor
P()*	48V	PC ALM	Major
SB()	48V	MN	Minor
TB()	48V	MN	Minor
CFA	24V	MJ	Major
CS()	24V	MJ	Major
F()*	24V	F ALM	Minor
F()	24V	MN	Minor
FB()	24V	F ALM	Minor
FIL	24V	MN	Minor
PA()	24V	PU ALM	Major
PF()*	24V	F ALM	Minor
PS	24V	MJ	Major
1W	24V	MJ	Major
CARR	12V	ALM, MJ	Major
FP1††	12V	FUSE ALM	Minor
FR()	12V	ALM, MJ	Major
RS	Ringing Supply	MN	Minor

* Located on ED-6G403 Fuse and Alarm Panel

† Alarm Indications are optional

†† Located on J68929AE (L1 & L2) Carrier Distribution Panel

CHART 1 (Contd)

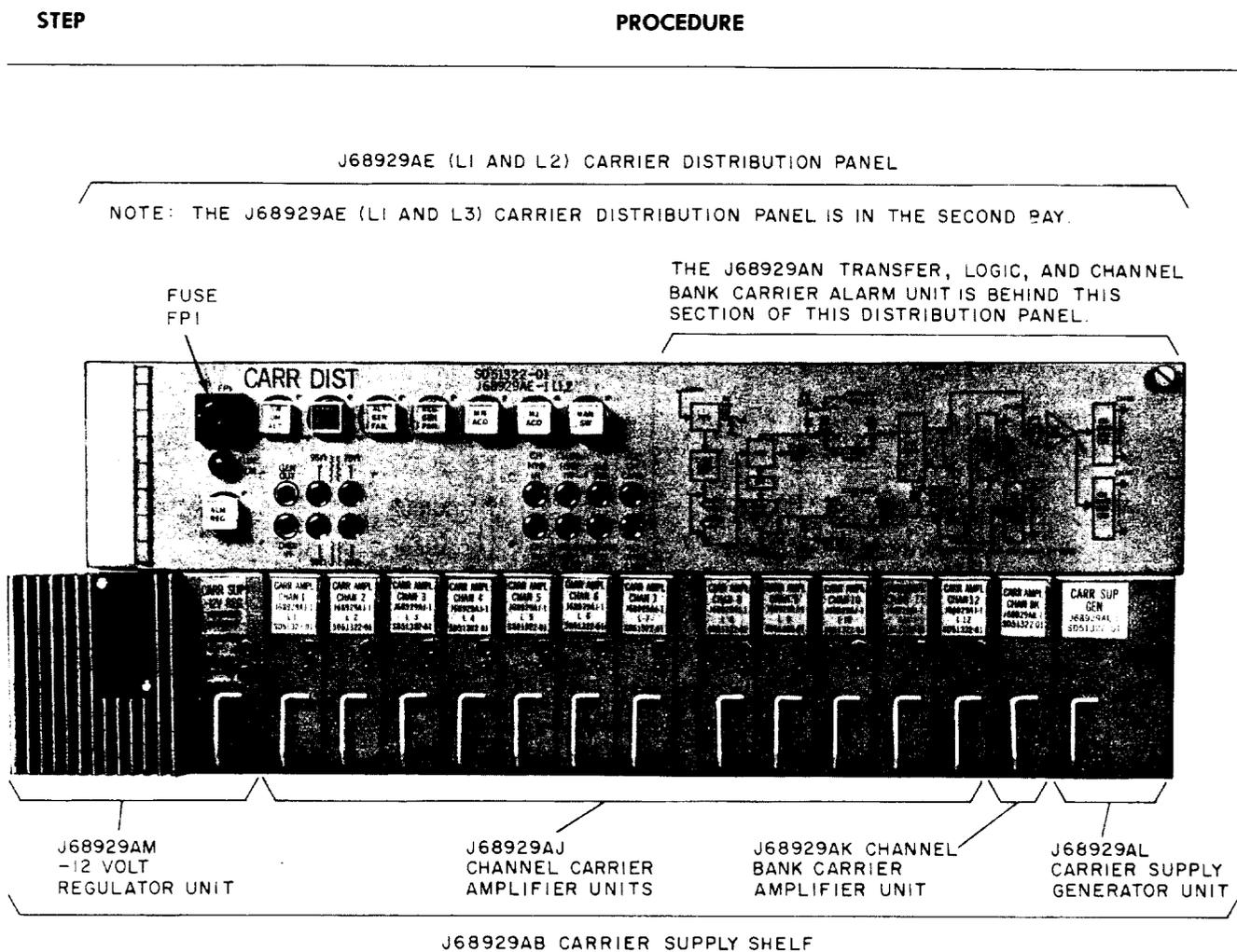


Fig. 2—A6 Carrier Supply and Distribution Panel

- 16 Remove fuse FPI from the J68929AE (L1 and L2) carrier distribution panel and fuse CS3 from the fuse panel.

At the regular frame:

- 17 (a) Insert the J68929AL carrier supply generator unit (Fig. 2).
(b) Reinsert fuse CS3.

Requirement: No fuses blow.

- 18 If the requirement of Step 17 is *not* met,

CHART 1 (Contd)

STEP	PROCEDURE
	<ul style="list-style-type: none">(a) Remove fuse CS3 from the fuse panel.(b) Replace the J68929AL carrier supply generator with a spare unit.(b) Reinsert fuse CS3.(d) Replace the blown fuse with a spare.
19	Insert the J68929AM carrier supply -12 volt regulator (Fig. 2).
20	Insert fuse CS1 in the applicable fuse panel. Requirement: No fuses blow.
21	If the requirement of Step 20 is not met, <ul style="list-style-type: none">(a) Remove fuse CS3 from the fuse panel.(b) Replace the J68929AL carrier supply generator with a spare unit.(c) Reinsert fuse CS3.(d) Replace the blown fuse with a spare.
22	If the requirement of Step 20 cannot be met, <ul style="list-style-type: none">(a) Remove fuse CS3 from the fuse panel.(b) Reinsert the carrier supply generator removed in Step 21(b).(c) Reinsert fuse CS3.(d) Replace the J68929AM -12 volt regulator with a spare unit.(e) Replace the blown fuse with a spare.
23	Insert, one at a time, the twelve J68929AJ channel carrier amplifier units and the one J68929AK channel bank carrier amplifier unit (Fig. 2). Requirement: No fuses blow.
24	If the requirement of Step 23 is not met, <ul style="list-style-type: none">(a) Replace the plug-in unit that, when inserted, caused a fuse to blow.(b) Replace the blown fuse with a spare.

CHART 1 (Contd)

STEP	PROCEDURE
25	Insert fuse FP1 in the J68929AE (L1 and L2) carrier distribution panel.
26	If the A6 UTE frame is not equipped with the J68929BA CFA carrier supply shelf, proceed to Step 27. If it is equipped for CFA, proceed to Step 44.
FRAME NOT EQUIPPED FOR CFA	
27	Scan the lamps on the J68929AE (L1 and L2) carrier distribution panel. Requirements: (a) The ALM REG lamp is lighted. (b) The ALT GEN FAIL lamp is lighted. Note: If the MAN SW lamp is lighted or the office alarms are activated, press the corresponding switches.
28	Press the ALM REG switch. Requirement: The ALM REG lamp is extinguished. At the alternate frame:
29	Perform Steps 1 through 25.
30	Scan the lamps on the J68929AE (L1 and L2) carrier distribution panel. Requirements: (a) The ALM REG lamp is lighted. (b) The ALT GEN FAIL lamp is extinguished. Note: If the MAN SW lamp is lighted or the office alarms are activated, press the corresponding switches.
31	Press the ALM REG switch. Requirement: The ALM REG lamp is extinguished. At the regular frame:
32	Scan the lamps on the J68929AE (L1 and L2) carrier distribution panel. Requirement: The ALT GEN FAIL lamp is extinguished.
33	If the requirements of Steps 27, 28, 30, 31, and 32 are not met, refer to Section 356-016-504.

CHART 1 (Contd)

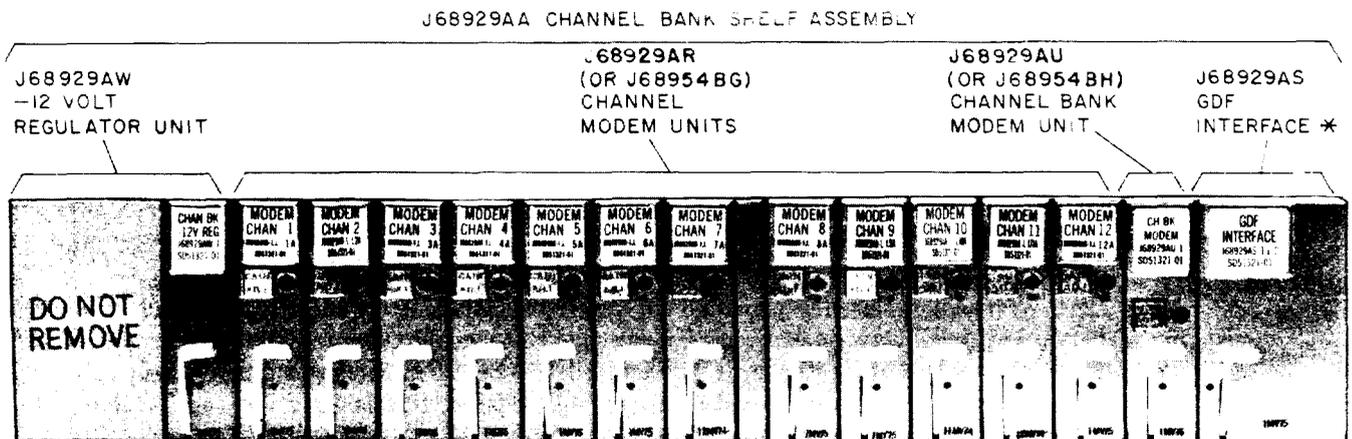
STEP	PROCEDURE
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At the regular and alternate frames:

- 34 Ensure that the -24 volt fuses associated with the channel banks being equipped are **not** installed.
- 35 Insert the J68929AG or AU ♦(or J68954BH)♦ channel bank modem and the J68929AH or AW channel bank -12 volt regulator in the first channel bank (Fig. 3) to be equipped.
- 36 Insert the applicable fuse (F1 to F14 in the 24-volt circuit) for the channel bank being equipped. (See Table A.)

Requirement: The inserted fuse does not blow.

- 37 If the requirement of Step 36 is **not** met,
 - (a) Replace the J68929AG or AU ♦(or J68954BH)♦ channel bank modem with a spare unit.
 - (b) Replace the blown fuse with a spare.
- 38 If the requirement of Step 36 **cannot** be met,
 - (a) Reinsert the channel bank modem removed in Step 37(a).



* IF EQUIPPED FOR CFA, THE J68929AS GDF INTERFACE WILL BE REPLACED WITH THE J68929BC (OR J68954BJ) CFA UNIT.

Fig. 3—♦A6 Channel Bank♦

CHART 1 (Contd)

STEP

PROCEDURE

(b) Replace the J68929AH or AW -12 volt regulator with a spare unit.

(c) Replace the blown fuse with a spare.

- 39 Insert, one at a time, the twelve J68929AR (or J68954BG) channel modems (Fig. 3) in the channel bank being equipped.

Note: For a partially-equipped channel bank, only the channel modems for the channels being equipped need to be inserted.

Requirement: No fuses blow.

- 40 If the requirement of Step 39 is **not** met, replace the blown fuse with a spare.

- 41 If the requirement of Step 39 **cannot** be met,

(a) Replace the channel modem that, when inserted, caused a fuse to blow.

(b) Replace the blown fuse with a spare.

- 42 Repeat Steps 34 through 41 for all other channel banks to be equipped.

- 43 Perform the tests prescribed in Sections 356-016-501 and -505.

Note: Some tests in Section 356-016-505 cannot be performed completely in a partially-equipped bank.

FRAME EQUIPPED FOR CFA

- 44 Insert, one at a time, plug-in units in the CFA carrier supply shelves (Fig. 4) according to the type of CFA operation (1-way or 2-way) to be used. See Table C.

Note 1: The same type of CFA operation must be used in the regular and alternate supplies.

Note 2: Write-on labels are provided on the front panel of CFA units that can be used for either 1-way or 2-way operation. The appropriate designation (1W or 2W) should be written in this space before the unit is inserted in the CFA carrier supply shelf. If the unit is later used in a different J-code-compatible location, the designation can be changed as required.

Note 3: If it is desired to equip and fuse the A6 channel banks before the CFA carrier supply, the J68929BN CFA CONNs must be installed in the J68929BA shelf to extinguish the carrier supply alarm lamps.

- 45 Scan the lamps on the J68929AE (L1 and L2) carrier distribution panel.

CHART 1 (Contd)

STEP

PROCEDURE

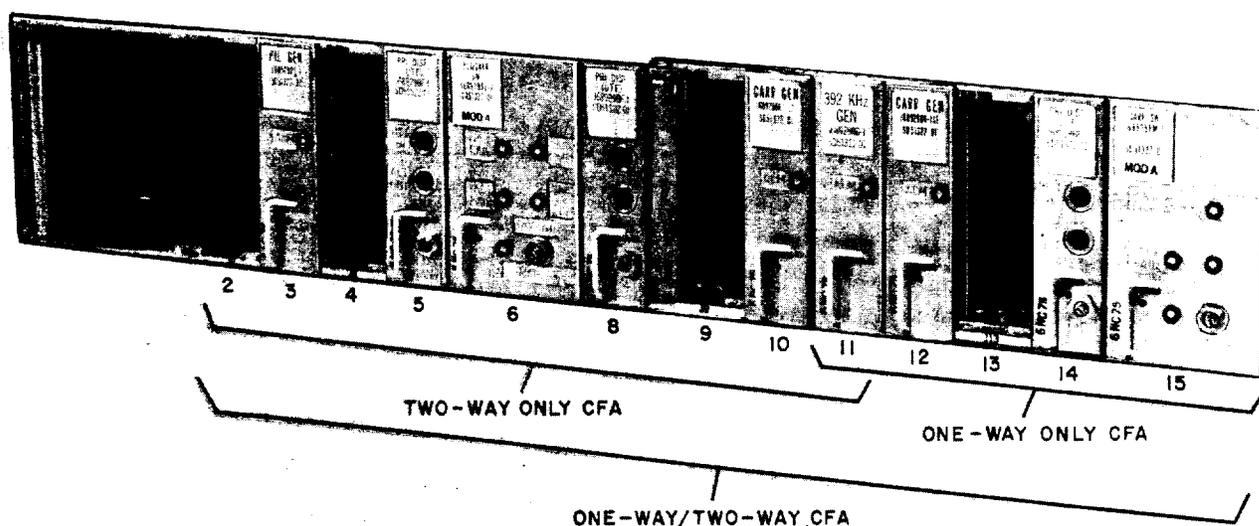


Fig. 4—A6 CFA Carrier Supply Arrangement in J98626() Frames

Requirements: After 25 seconds,

- (a) The ALM REG lamp is lighted.
- (b) The ALT GEN FAIL lamp is lighted.

Note: If the MAN SW lamp is lighted or the office alarms are activated, press the corresponding switches.

46 Scan the lamps on the J68929BA CFA carrier supply shelf.

Requirements: As equipped,

- (a) The ALT FAIL lamp on the J68929BL PIL/CARR SW is lighted.
- (b) The ALT FAIL lamp on the J68929BM CARR SW() is lighted.

Note: If the MAN SW lamp on either the J68929BL or BM units is lighted, operate the corresponding MAN SW key.

47 Press the ALM REG switch.

◆TABLE C◆

LOCATION OF CFA PLUG-IN UNITS IN J68929BA SHELF
J98626() FRAMES

CFA OPERATION	SHELF NO. J68929(-)	CONN SLOT NO. J (-)	PLUG-IN UNIT	
			J68929(-)	DESIGNATION
NONE	BA	6	BN	CFA CONN
	BA	15	BN	CFA CONN
ONE-WAY	BA	6	BN	CFA CONN
	BA	11	BD	392 KHZ GEN
	BA	12	BK, L1	CARR GEN()
	BA	14	BE or BF	PRI DIST ()
	BA	15	BM	CARR SW
TWO-WAY	BA	3	BJ	PIL GEN (CFA)
	BA	5	BE or BF	PRI DIST (PIL)
	BA	6	BL	PIL/CARR SW
	BA	8	BE or BF	PRI DIST ()
	BA	10	BK, L2	CARR GEN ()
	BA	11	BD	392 KHZ GEN
	BA	15	BN	CFA CONN
ONE-WAY/ TWO-WAY	BA	3	BJ	PIL GEN (CFA)
	BA	5	BE or BF	PRI DIST (PIL)
	BA	6	BL	PIL/CARR SW
	BA	8	BE or BF	PRI DIST ()
	BA	10	BK, L2	CARR GEN ()
	BA	11	BD	392 KHZ GEN
	BA	12	BK, L1	CARR GEN ()
	BA	14	BE or BF	PRI DIST ()
	BA	15	BM	CARR SW ()

Note 1: Parentheses () without enclosed information indicates that the designation "1-way" (1 W) or "2-way" (2 W) (as applicable) will be inserted locally according to the type of operation for the applicable shelf slot.

Note 2: CFA is not used in the J98626K, L, and M frames.

Note 3: J98626AG (CFA pilot) and J98626AH (CFA carrier) secondary distribution units are mounted on the ED-2C142 and ED-2C143 CGC shelves in the J98626A and B frames; ED-2C390 (CFA carrier) and ED-2C391 (CFA pilot) secondary distribution units are mounted on the J98626AJ, L1 CFA secondary distribution shelf for CFA secondary distribution in the J98626C, D, E, and F frames.

CHART 1 (Contd)

STEP	PROCEDURE
	<p>Requirement: The ALM REG lamp is extinguished.</p> <p>At the alternate frame:</p>
48	Perform Steps 1 through 25.
49	Scan the lamps on the J68929AE (L1 and L2) carrier distribution panel.
	<p>Requirements: After 25 seconds,</p> <p>(a) The ALM REG lamp is lighted.</p> <p>(b) The ALT GEN FAIL lamp is extinguished.</p>
	<p>Note: If the MAN SW lamp is lighted or the office alarms are activated, press the corresponding switches.</p>
50	Scan the lamps on the J68929BA CFA carrier supply shelf.
	<p>Requirement: As equipped,</p> <p>(a) The ALT FAIL lamp on the J68929BL PIL/CARR SW is extinguished.</p> <p>(b) The ALT FAIL lamp on the J68929BM CARR SW() is extinguished.</p>
	<p>Note: If the MAN SW lamp on either the J68929BL or BM units is lighted, operate the corresponding MAN SW key.</p>
51	Press the ALM REG switch.
	<p>Requirement: The ALM REG lamp is extinguished.</p> <p>At the regular frame:</p>
52	Scan the lamps on the J68929AE (L1 and L2) carrier distribution panel.
	<p>Requirement: The ALT GEN FAIL lamp is extinguished.</p>
53	Scan the lamps on the J68929BA CFA carrier supply shelf.
	<p>Requirements: As equipped,</p> <p>(a) The ALT FAIL lamp on the J68929BL PIL/CARR SW is extinguished.</p> <p>(b) The ALT FAIL lamp on the J68929BM CARR SW() is extinguished.</p>
54	If the requirements of Steps 45 through 53 are not met, refer to Section 356-016-504.
	<p>At the regular and alternate frames:</p>
55	Ensure that the -24 volt fuses associated with the channel banks being equipped are not installed.

CHART 1 (Contd)

STEP	PROCEDURE
56	Insert the J68929AU ♦(or J68954BH)♦ channel bank modem and the J68929AH or AW channel bank -12 volt regulator in the first channel bank (Fig. 3) to be equipped.
57	Insert the applicable fuse (F1 to F14 in the 24-volt circuit) for the channel bank being equipped. (See Table A.) Requirement: The inserted fuse does <i>not</i> blow.
58	If the requirement of Step 57 is <i>not</i> met, (a) Replace the J68929AU ♦(or J68954BH)♦ channel bank modem with a spare unit. (b) Replace the blown fuse with a spare.
59	If the requirement of Step 57 <i>cannot</i> be met, (a) Reinsert the channel bank modem removed in Step 58(a). (b) Replace the J68929AH or AW -12 volt regulator with a spare unit. (c) Replace the blown fuse with a spare.
60	Insert, one at a time, the twelve J68929AR ♦(or J68954BG)♦ channel modems (Fig. 3) in the channel bank being equipped. Note: For a partially-equipped channel bank, only the channel modems for the channels being equipped need to be inserted. Requirement: No fuses blow.
61	If the requirement of Step 60 is <i>not</i> met, replace the blown fuse with a spare.
62	If the requirement of Step 60 <i>cannot</i> be met, (a) Replace the channel modem that, when inserted, caused a fuse to blow. (b) Replace the blown fuse with a spare.
63	Remove the snap-on cover from the 1W/2W CFA option switch located at the rear of the printed wiring board on the J68929BC ♦(or J68954BJ)♦ CFA unit (Fig. 5).
64	Press the switch actuators down at the numbered (1, 2, 3, 4) end as follows: 1-Way CFA: Press switch actuators 1 and 2 down ♦(up at 3 and 4).♦ 2-Way CFA: Press switch actuators 3 and 4 down ♦(up at 1 and 2).♦

CHART 1 (Contd)

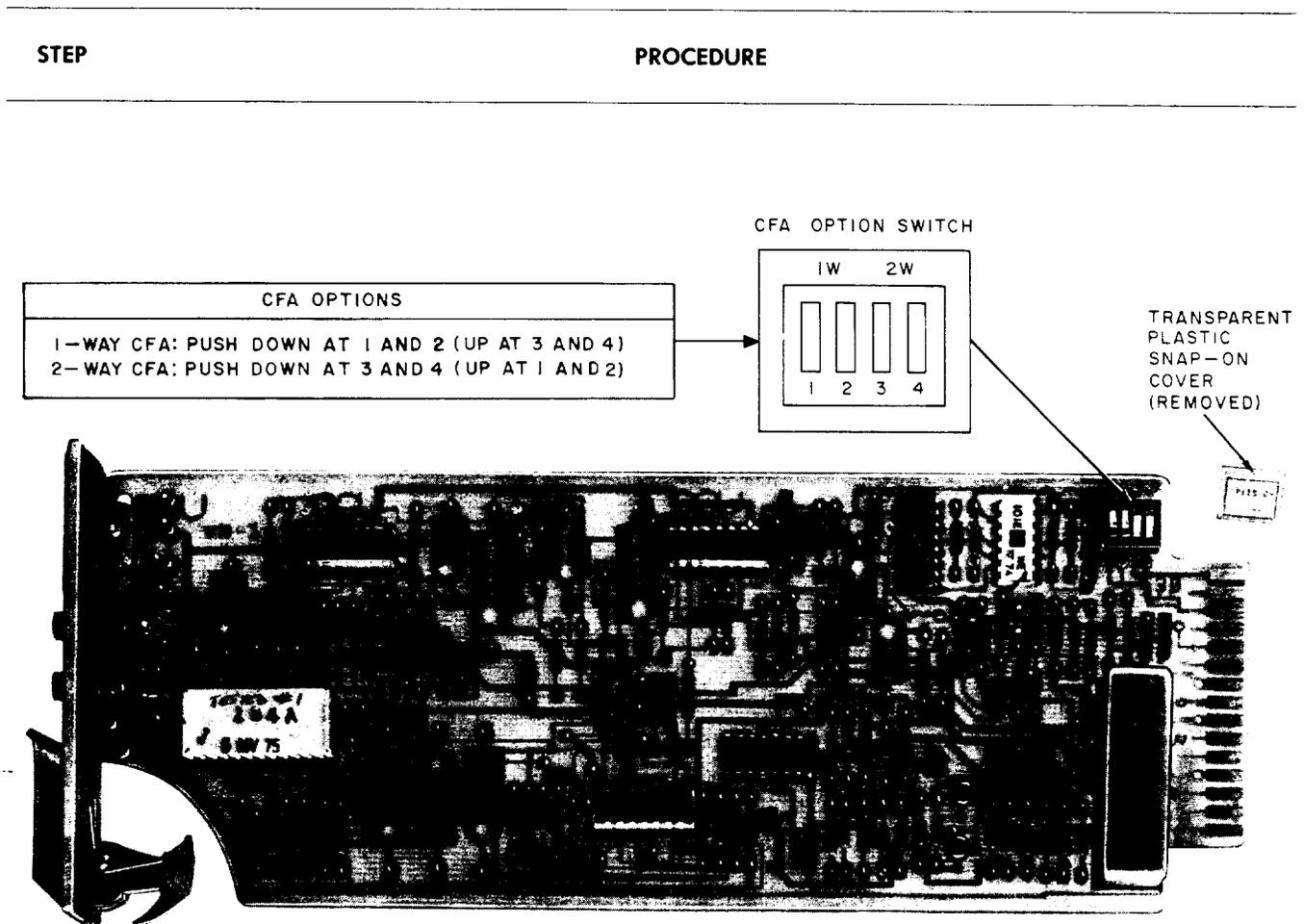


Fig. 5—J68929BC (or J68954BJ) Carrier Failure Alarm Unit

- 65 Replace the snap-on switch cover.
- 66 Write the applicable option (1W or 2W) in the space provided on the front panel of the J68929BC (or J68954BJ) CFA unit.
- 67 Insert the J68929BC (or J68954BJ) CFA unit in the last slot on the right end of the A6 channel bank shelf [to the right of the J68929AU (or J68954BH) channel bank modem] as shown in Fig. 3.
- Requirement:** No fuses blow.
- 68 If the requirement of Step 67 is *not* met, replace the blown fuse with a spare.
- 69 If the requirement of Step 67 *cannot* be met,

CHART 1 (Contd)

STEP	PROCEDURE
	(a) Replace the J68929BC ♦(or J68954BJ)♦ CFA unit with a spare.
	(b) Replace the blown fuse with a spare.
70	Repeat Steps 55 through 69 for all other channel banks to be equipped.
71	Perform the tests prescribed in Sections 356-016-501, -505, and -506.
	Note: Some tests in Section 356-016-505 cannot be performed completely in a partially-equipped bank.

CHART 2
INITIAL INSTALLATION
A6 AUXILIARY CARRIER SUPPLY

STEP	PROCEDURE
	<p>Note: This chart should be performed after Chart 1, if applicable.</p> <p>At the J68929AP A6 auxiliary carrier supply:</p> <p>Note: The A6 auxiliary carrier supply (Fig. 6) is normally mounted in a miscellaneous bay.</p>
1	Ensure that no fuses or plug-in units are installed.
2	Inspect the connectors in the mounting shelves, from both front and rear, to ensure that no contacts are bent or misaligned.
3	<p>◆ Insert a blown fuse in each fuse holder (one at a time) as designated in Table D.</p> <p>Requirement: The FUSE ALM lamp on the J68929AP panel lights.</p>
4	If the requirement of Step 3 is not met, check for trouble in the fuse alarm circuit.
5	Insert all fuses in the J68929AP auxiliary carrier supply. (See Table D.)
	<p>Requirement: (a) No fuses blow. (b) The AUX GEN FAIL and REG GEN FAIL lamps on the J68929AP panel are lighted.</p> <p>Note: Blown-fuse indications are: (a) A lighted FUSE ALM lamp on the J68929AP panel. (b) A colored tip protruding through the center of the applicable fuse holder cap.</p>
6	<p>If the requirement of Step 5 is not met,</p> <p style="padding-left: 40px;">(a) Correct any trouble in the wiring or connectors associated with the blown fuse.</p> <p>Note: Use Table D as a guide.</p> <p style="padding-left: 40px;">(b) Replace the blown fuse with a spare.◆</p>
7	Remove fuses F3, F4, and FP1 from the J68929AP auxiliary carrier supply.
8	(a) Insert the J68929AL carrier supply generator unit (Fig. 6).

CHART 2 (Contd)

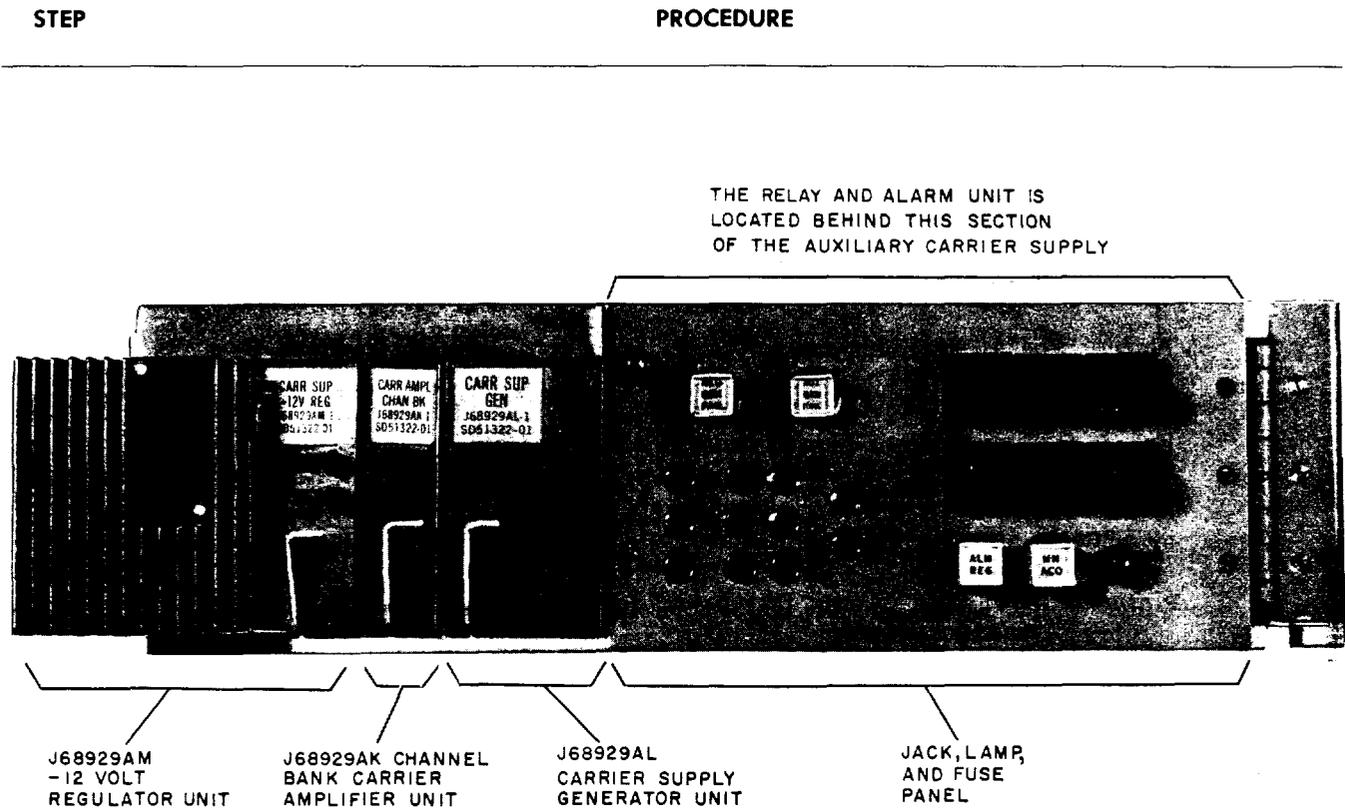


Fig. 6—J68929AP Auxiliary Carrier Supply

Note: Before inserting any plug-in unit in a slot, ensure that it is the unit specified for that slot. Then remove the connector protection cap from the plug-in unit and inspect the connector for bent or misaligned contacts.

(b) Reinsert fuse F3 in the auxiliary carrier supply.

Requirement: No fuses blow.

- 9 If the requirement of Step 8 is *not* met,
- (a) Remove fuse F3 from the auxiliary carrier supply.
 - (b) Replace the J68929AL carrier supply generator with a spare unit.
 - (c) Reinsert fuse F3.
 - (d) Replace the blown fuse with a spare.
- 10 Insert the J68929AM carrier supply -12 volt regulator (Fig. 6).

CHART 2 (Contd)

STEP

PROCEDURE

♦TABLE D♦

FUSE APPLICATION IN THE A6 AUXILIARY CARRIER SUPPLY

DESIGNATION	FUSE				PROVIDES PROTECTION FOR
	TYPE	COLOR CODE	VALUE	CIRCUIT	
F1	70G	Red	1/2A	24V	Relay and Alarm Circuit of Auxiliary Carrier Supply Transfer & Logic of Regular Carrier Supply
F2	70G	Red	1/2A	24V	Channel Bank Carrier Amplifier
F3	70A	White	1 1/3A	24V	Carrier Supply Generator — when CFA auxiliary carrier supply <i>is</i> provided — Option W
	70G	Red	1/2A	24V	Carrier Supply Generator — when CFA auxiliary carrier supply <i>is not</i> provided — Option X
F4	70B	Orange	2A	24V	Auxiliary Carrier Supply -12 Volt Regulator
FP1	70H	Brown	3/4A	12V	Regular Carrier Supply -12 Volt Regulator
FR1	70H	Brown	3/4A	12V	Channel Bank Carrier Amplifier and Carrier Supply Generator

11 Insert fuse F4 in the J68929AP auxiliary carrier supply panel.

Requirement: No fuses blow.

12 If the requirement of Step 11 is **not** met,

(a) Remove fuse F3 from the auxiliary carrier supply.

(b) Replace the J68929AL carrier supply generator with a spare unit.

(c) Reinsert fuse F3.

(d) Replace the blown fuse with a spare.

13 If the requirement of Step 11 **cannot** be met,

(a) Remove fuse F3 from the auxiliary carrier supply.

CHART 2 (Contd)

STEP	PROCEDURE
	(b) Reinsert the carrier supply generator removed in Step 12(b).
	(c) Reinsert fuse F3.
	(d) Replace the J68929AM -12 volt regulator with a spare unit.
	(e) Replace the blown fuse with a spare.
14	Insert the J68929AK channel bank carrier amplifier unit (Fig. 6).
	Requirement: No fuses blow.
15	If the requirement of Step 14 is <i>not</i> met,
	(a) Replace the J68929AK channel bank carrier amplifier with a spare unit.
	(b) Replace the blown fuse with a spare.
16	Insert fuse FP1 in the J68929AP panel.
17	Scan the lamps on the J68929AP panel.
	Requirements: (a) The ALM REG lamp is lighted. (b) The REG GEN FAIL lamp is extinguished. (c) The AUX GEN FAIL lamp is extinguished.
18	Press the ALM REG switch.
	Requirement: The ALM REG lamp is extinguished.
	At the regular frame:
19	Scan the lamps on the J68929AE (L1 and L2) carrier distribution panel.
	Requirement: The ALT GEN FAIL lamp is extinguished.
20	If the requirements of Steps 17, 18, and 19 are <i>not</i> met, refer to Section 356-016-504.
21	◆Perform applicable tests prescribed in Section 356-016-501.◆

CHART 3
INITIAL INSTALLATION
CFA AUXILIARY CARRIER SUPPLY

STEP**PROCEDURE**

Note: This chart should be performed after Chart 2, if applicable.

At the CFA auxiliary carrier supply:

Note: The CFA auxiliary carrier supply is normally mounted in a miscellaneous bay.

- 1 Ensure that no plug-in units are installed.
- 2 Inspect the connectors in the mounting shelves, from both front and rear, to ensure that no contacts are bent or misaligned.
- 3 Insert, one at a time, plug-in units in the J68929BP CFA auxiliary carrier supply shelf (Fig. 7) according to the type of CFA operation (1-way or 2-way) to be used. See Table E.

Note 1: The same type of CFA operation must be used in the regular and auxiliary supplies.

Note 2: Write-on labels are provided on the front panel of CFA units that can be used for either 1-way or 2-way operation. The appropriate designation (1W or 2W) should be written in this space before the unit is inserted in the CFA carrier supply shelf. If the unit is later used in a different J-code-compatible location, the designation can be changed as required.

- 4 Scan the lamps on the J68929AE (L1 and L2) carrier distribution panel.

Requirements: After 25 seconds,
The ALM REG lamp is lighted.

- 5 Press the ALM REG switch.

Requirement: The ALM REG lamp is extinguished.

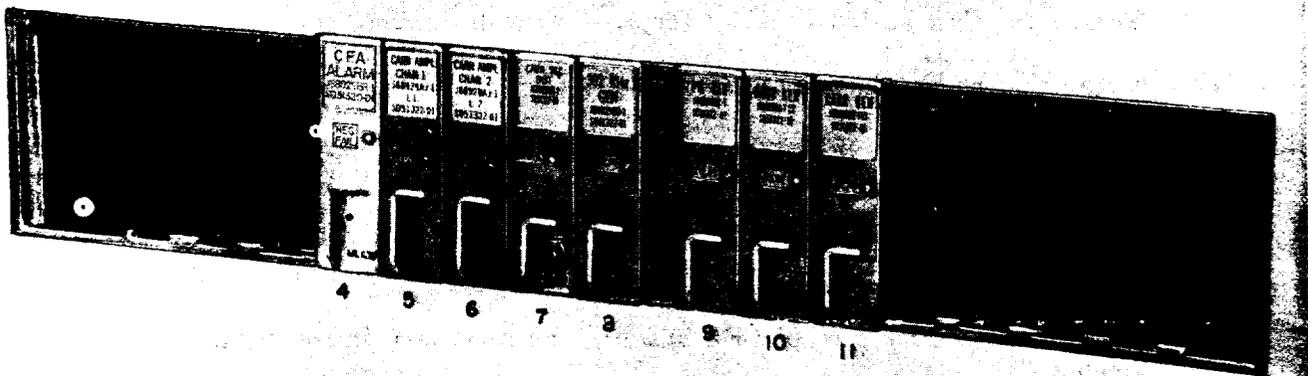
At the CFA regular carrier supply:

- 6 Scan the lamps on the J68929BL pilot/carrier switch and/or J68929BM carrier switch.

Requirement: The ALT FAIL lamp is extinguished.

- 7 ♦If the requirements of Steps 4, 5, and 6 are **not** met, refer to Section 356-016-506.
 - 8 Perform applicable tests prescribed in Section 356-016-506.♦
-

CHART 3 (Contd)



SLOT NO.	4	5	6	7	8	9	10	11
ONE-WAY ONLY CFA	•	•		•	•			•
TWO-WAY ONLY CFA	•		•	•	•	•	•	
ONE WAY/TWO WAY CFA	•	•	•	•	•	•	•	•

NOTE:
 J68929BP CFA AUXILIARY CARRIER SUPPLY SHELF IS
 MOUNTED BELOW A6 AUXILIARY CARRIER SUPPLY SHELF.

Fig. 7—J68929BP CFA Auxiliary Carrier Supply

CHART 3 (Contd)

TABLE E

LOCATION OF CFA PLUG-IN UNITS
IN J68929BP SHELF

CFA OPERATION	SHELF NO. J68929()	CONN SLOT NO. J ()	PLUG-IN UNIT	
			J68929()	DESIGNATION
NONE	BP	4	BN	CFA CONN
	BP	10	BN	CFA CONN
ONE-WAY	BP	4	BR	CFA ALARM
	BP	5	AJ, L1	CARR AMPL CHAN 1
	BP	7	BG	CARR SEC DIST ()
	BP	8	BD	392 KHZ GEN
	BP	9	BN	CFA CONN
	BP	10	BN	CFA CONN
TWO-WAY	BP	11	BK, L1	CARR GEN ()
	BP	4	BR	CFA ALARM
	BP	6	AJ, L2	CARR AMPL CHAN 2
	BP	7	BG	CARR SEC DIST ()
	BP	8	BD	392 KHZ GEN
	BP	9	BJ	PIL GEN (CFA)
ONE-WAY/ TWO-WAY	BP	10	BK, L2	CARR GEN ()
	BP	11	BN	CFA CONN
	BP	4	BR	CFA ALARM
	BP	5	AJ, L1	CARR AMPL CHAN 1
	BP	6	AJ, L2	CARR AMPL CHAN 2
	BP	7	BG	CARR SEC DIST ()
BP	8	BD	392 KHZ GEN	
BP	9	BJ	PIL GEN (CFA)	
BP	10	BK, L2	CARR GEN ()	
BP	11	BK, L1	CARR GEN ()	

Note: Parentheses () without enclosed information indicates that the designation "1-way" (1 W) or "2-way" (2 W) (as applicable) will be inserted locally according to the type of operation for the applicable shelf slot.

CHART 4

ADDING CHANNELS TO PARTIALLY-EQUIPPED BANKS

STEP	PROCEDURE
	<p>Caution: <i>When performing this procedure, use extreme care to ensure that service on active channels is not interrupted. If practicable, the channel bank should be placed out of service.</i></p>
1	<p>Insert, one at a time, the required J68929AR ♦(or J68954BG)♦ channel modems in the first partially-equipped channel bank (Fig. 3) to be equipped.</p> <p>Note: Before inserting any plug-in unit in a slot, ensure that it is the unit specified for that slot. Then remove the connector protection cap from the plug-in unit and inspect the connector for bent or misaligned contacts.</p> <p>Requirement: No fuses blow.</p> <p>Note: Blown fuse indications are:</p> <ul style="list-style-type: none">(a) A lighted MN lamp on the applicable fuse panel(b) A colored tip protruding through the center of the applicable fuse holder cap.
2	<p>If the requirement of Step 1 is not met,</p> <ul style="list-style-type: none">(a) Replace the channel modem that, when inserted, caused a fuse to blow.(b) Replace the blown fuse with a spare.
3	<p>Repeat Steps 1 and 2 for all other partially-equipped channel banks that are to be equipped.</p>
4	<p>Perform applicable tests prescribed in Section 356-016-505.</p> <p>Note 1: The channel bank must be out of service for some of these tests.</p> <p>Note 2: Some tests in Section 356-016-505 cannot be performed completely in a partially-equipped bank.</p>

CHART 5

ADDING CHANNEL BANKS TO PARTIALLY-EQUIPPED FRAMES

STEP	PROCEDURE
	<p>Caution: <i>When performing this procedure, use extreme care to ensure that service on active channels is not interrupted.</i></p>
1	Ensure that the -24 volt fuses associated with the channel banks being equipped are <i>not</i> installed.
2	Insert the J68929AG or AU ♦(or J68954BH)♦ channel bank modem and the J68929AH or AW channel bank -12 volt regulator in the first channel bank (Fig. 3) to be equipped.
	<p>Note: Before inserting any plug-in unit in a slot, ensure that it is the unit specified for that slot. Then remove the connector protection cap from the plug-in unit and inspect the connector for bent or misaligned contacts.</p>
	<p>Requirement: No fuses blow.</p>
	<p>Note: Blown fuse indications are:</p> <ul style="list-style-type: none"> (a) A lighted MN lamp on the applicable fuse panel (b) A colored tip protruding through the center of the applicable fuse holder cap.
3	Insert the applicable fuse (F1 to F14 in the 24-volt circuit) for the channel bank being equipped. (See Table A.)
	<p>Requirement: The inserted fuse does not blow.</p>
4	If the requirement of Step 3 is <i>not</i> met, <ul style="list-style-type: none"> (a) Replace the J68929AG or AU ♦(or J68954BH)♦ channel bank modem with a spare unit. (b) Replace the blown fuse with a spare.
5	If the requirement of Step 3 <i>cannot</i> be met, <ul style="list-style-type: none"> (a) Reinsert the channel bank modem removed in Step 4(a). (b) Replace the J68929AH or AW -12 volt regulator with a spare unit. (c) Replace the blown fuse with a spare.
6	Insert, one at a time, the twelve J68929AR ♦(or J68954BG)♦ channel modems in the channel bank (Fig. 3) being equipped.

CHART 5 (Contd)

STEP	PROCEDURE
	<p>Note: For a partially-equipped channel bank, only the channel modems for the channels being equipped need be inserted.</p> <p>Requirement: No fuses blow.</p>
7	<p>If the requirement of Step 6 is not met,</p> <ul style="list-style-type: none">(a) Replace the channel modem that, when inserted, caused a fuse to blow.(b) Replace the blown fuse with a spare.
8	<p>Repeat Steps 1 through 7 for all other channel banks to be equipped.</p>
9	<p>Perform the tests prescribed in Section 356-016-505.</p>
	<p>Note 1: The channel bank must be out of service for some of these tests.</p> <p>Note 2: Some tests in Section 356-016-505 cannot be performed completely in a partially-equipped bank.</p>

CHART 6

ADDING A CFA CARRIER SUPPLY TO IN-SERVICE FRAMES

STEP	PROCEDURE
	<p>Caution: <i>When performing this procedure, use extreme care to ensure that service on active channels is not interrupted.</i></p> <p>At the regular CFA carrier supply:</p> <p>1 Remove the J68929BN CFA connector from the section(s) (1-way and/or 2-way) of the CFA carrier supply shelf to be equipped.</p> <p>Requirement: The CARR FAIL lamp on the J68929AE (L1 and L2) panel is lighted.</p> <p>Note: The office alarms will be activated. Press the corresponding MN ACO or MJ ACO keys on the J68929AE (L1 and L2) carrier distribution panel.</p> <p>2 Insert, one at a time, plug-in units in the CFA carrier supply shelves (Fig. 4) according to the type of CFA operation (1-way or 2-way) to be used. See Table C.</p> <p>Note 1: The same type of CFA operation must be used in the regular and alternate supplies.</p> <p>Note 2: Write-on labels are provided on the front panel of CFA units that can be used for either 1-way or 2-way operation. The appropriate designation (1W or 2W) should be written in this space before the unit is inserted in the CFA carrier supply shelf. If the unit is later used in a different J-code-compatible location, the designation can be changed as required.</p> <p>3 Scan the lamps on the newly-installed J68929BL pilot/carrier switch and/or J68929BM carrier switch.</p> <p>Requirement: After 25 seconds, The ALT FAIL lamp on the newly-installed unit(s) is lighted.</p> <p>Note: If the MAN SW lamp on the newly-installed unit(s) is lighted, operate the corresponding MAN SW key(s).</p> <p>At the alternate CFA carrier supply:</p> <p>4 Repeat Steps 1 and 2.</p> <p>5 Scan the lamps on the newly-installed J68929BL pilot/carrier switch and/or J68929BM carrier switch.</p> <p>Requirement: After 25 seconds, The ALT FAIL lamp on the newly-installed unit(s) is extinguished.</p>

CHART 6 (Contd)

STEP	PROCEDURE
6	<p>Note: If the MAN SW lamp on the newly-installed unit(s) is lighted, operate the corresponding MAN SW key(s).</p> <p>Press the ALM REG key.</p> <p>Requirement: The ALM REG lamp is extinguished.</p> <p>At the regular CFA carrier supply:</p>
7	<p>Scan the lamps on the newly-installed J68929BL pilot/carrier switch and/or J68929BM carrier switch.</p> <p>Requirement: The ALT FAIL lamp on the newly-installed unit(s) is extinguished.</p>
8	<p>Press the ALM REG key.</p> <p>Requirement: The ALM REG lamp is extinguished.</p>
9	<p>If the requirements of Steps 3 through 8 are not met, check for lighted lamps on the CFA carrier supply units to help isolate the trouble. ♦See Section 356-016-506.♦</p>
10	<p>If the requirements of Steps 3 through 8 cannot be met,</p> <ul style="list-style-type: none">(a) Check the bay wiring.(b) Replace any CFA units suspected of being defective.
11	<p>Perform applicable tests prescribed in Section 356-016-506.</p>

CHART 7

**ADDING OR CHANGING CFA PROTECTION
TO CHANNEL BANKS**

STEP	PROCEDURE
	<p>Caution: <i>This procedure must be performed only when the channel bank is out of service or when trunk conditioning is disabled. If 2-way CFA is in service, coordination with the far end is necessary. Use extreme care to ensure that service on active channels is not interrupted.</i></p>
1	If CFA operation is being added, proceed to Step 2. If an existing CFA option is being changed, remove the J68929BC ♦(or J68954BJ)♦ CFA unit from the applicable channel bank shelf.
2	Remove the snap-on cover from the 1W/2W CFA option switch located at the rear of the printed wiring board on the J68929BC ♦(or J68954BJ)♦ CFA unit (Fig. 5).
3	Press the switch actuators down at the numbered (1, 2, 3, 4) end as follows: <p style="margin-left: 40px;">1-Way CFA: Press switch actuators 1 and 2 down ♦(up at 3 and 4).♦</p> <p style="margin-left: 40px;">2-Way CFA: Press switch actuators 3 and 4 down ♦(up at 1 and 2).♦</p>
4	Replace the snap-on switch cover.
5	Write the applicable option (1W or 2W) in the space provided on the front panel of the J68929BC ♦(or J68954BJ)♦ CFA unit.
6	Insert the J68929BC ♦(or J68954BJ)♦ CFA unit in the last slot on the right end of the A6 channel bank shelf [to the right of the J68929AU ♦(or J68954BH)♦ channel bank modem] as shown in Fig. 3.
	Requirement: No fuses blow.
7	If the requirement of Step 6 is not met, replace the blown fuse with a spare.
8	If the requirement of Step 6 cannot be met, <p style="margin-left: 40px;">(a) Replace the J68929BC ♦(or J68954BJ)♦ CFA unit with a spare.</p> <p style="margin-left: 40px;">(b) Replace the blown fuse with a spare.</p>
9	Perform applicable tests prescribed in Section 356-016-506.