

**1A DATA STATION
SINGLE CHANNEL ARRANGEMENTS
BINARY MODE
MAINTENANCE**

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3. MAINTENANCE PROCEDURES	4	A. Scope	
A. General	4	1.01 This section describes the trouble analysis procedures to be followed when handling service complaints of the 1A Data Station, Single Channel Arrangements (SCA), hereafter referred to as the 1A Data Station.	
B. Trouble Isolation Prior To Dispatching Personnel	5	1.02 This section should be used as a guideline in conjunction with the description, installation, and test practices, 591-813-101, 591-813-201, and 591-813-501, respectively, to locate troubles at the 1A Data Station.	
C. Preliminary Trouble Investigation at the 1A Data Station, SCA	6	1.03 The maintenance of the teletypewriter (TTY) station to which the 1A Data Station is connected is <i>not</i> covered in this section. See the appropriate BSP for the model 28, 33, 35 or 37 TTY.	
D. Data Signal Checks—Receive End.	6	1.04 This section describes trouble analysis procedures for the 1A Data Station, <i>only</i> , from the 25-pin connector at the transmit end to the 25-pin connector at the receive end.	
E. Data Signal Checks—Transmit End.	8	B. Maintenance Policy	
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1.06 The 1A Data Station should require maintenance only when a channel or system fails or as a result of a customer report.

1.07 The 1A Data Station or circuit packs of the station not meeting the test requirements should be replaced to restore customer service as quickly as possible.



Care should be exercised in handling the circuit packs, particularly the transmitter and/or the demodulator circuit packs, to avoid dropping them. It is the property of the ferrite core inductors used on these cards that a physical shock can alter the inductance sufficiently to change the BIAS by a few percent and also to change the FREQUENCY of the transmitter oscillator. A severe physical shock can crack the ferrite structure.

1.08 The defective circuit pack shall be sent to the nearest Distribution House for repair. Maintenance on the circuit packs other than at the Service Center shall **not** be attempted.

1.09 Verify that proper options have been installed on the replacing circuit packs before placing them into their positions.

1.10 If the trouble cannot be isolated to a particular circuit pack within the 1A Data Station, replace all circuit packs as follows:

- (1) Replace circuit packs one at a time, until the trouble is corrected.
- (2) Reinstall all original circuit packs one at a time, **except** the one replaced by the new one which corrected the trouble.
- (3) If after replacing an original circuit pack the 1A Data Station functions properly, that circuit pack that was removed is obviously defective and should be returned to the Distribution House for repair.
- (4) Circuit packs taken from the Distribution House to the station for replacement purposes **should** be in good working order.

1.11 If possible, use original cartons to store, transport, or ship the circuit packs or data auxiliary sets.

C. Overall Maintenance Plan

1.12 The overall maintenance plan is divided into the following areas of responsibility for malfunctions in order to provide a systematic approach to the location and clearance of trouble.

- Trouble in TTY or customer-provided terminal (CPT) equipment
- Trouble in transmission facilities
- Trouble at the transmitter end at customer location
- Trouble at the receiver end at customer location
- Trouble at the Central Office [if the 1A Data Station is working into a 43B1 Voice Frequency Carrier Data (VFCD) or 43A1 Voice Frequency Carrier Telegraph (VFCT) System].

1.13 TTY or CPT Equipment: The customer should operate the test keys to verify the integrity of a channel by using built-in voiceband loop-around and data loop capabilities, and thus identify the trouble as being in his (the customer) equipment or in the equipment or facilities of the telephone company. Operation of the test keys is performed in a coordinated manner with the opposite terminal or an intervening telephone company office. If the trouble is found to be in Telco equipment or facilities, the responsibility for repair will be referred to the designated trouble reporting center.

1.14 Transmission Facilities: The troubleshooting and repair of the transmission facilities are not within the scope of this practice. When it has been found through preliminary test procedures that the line circuit circuit pack of the 1A Data Station at the transmit end has the specified output, and the specified signal is not received at the input to the line circuit of the 1A Data Station at the receive end, the responsibility for repair will be referred to the designated trouble reporting center.

1.15 Transmit End and Receive End Trouble:

This section is confined to the investigation and repair of trouble at the transmit end or at the receive end at the 1A Data Station.

1.16 For trouble in the 43B1 VFCD or 43A1 VFCT System, refer to the 312-7YY-ZZZ sections.

1.17 A sequence of activities, while following the flowcharts, is entered from a decision point only when the analysis of the trouble indicates the need to investigate that portion of the data circuit. A sequence may progress through several decision points before reaching one of the following points: (1) restoral of service, (2) reference to another trouble area, (3) referral of the trouble to Telco personnel, or (4) referral of the trouble to the designated trouble reporting center. The activities required to reach the respective end points for some of the sequences are similar in part.

1.18 The 1A Data Station is equipped with a data loop test feature which permits a test, with the assistance of the customer, to the interface (demarcation) between the 1A Data Station and the TTY or CPT equipment. This provides a means for remotely testing the operational capabilities of the 1A Data Station without dispatching a Telco employee. Telco-owned terminals such as the 1A Data Station can be remotely tested with the assistance of the customer, which permits sectionalizing trouble between the 1A Data Station and the TTY or CPT equipment.

1.19 The 1A Data Station is equipped with a voiceband loop-around feature which permits a test (continuity check) of the voice facilities with the assistance of the customer.

Caution: *Operation of the VBLA key or the TEST key will cause disruption of transmission of data through the 1A Data Station.*

2. MAINTENANCE AIDS

2.01 The following documents may be of assistance during a maintenance visit:

SECTION	TITLE
SD-&CD-1D184-01	1A Data Station—Single Channel Arrangements
ED-1D159-01	Data Systems—1A Data Station—Multi and Single Channel Arrangements—Teletypewriter and Customer Provided Terminal Applications
SD-&CD-1D148-01	1A Data Station, Multichannel Arrangements
591-813-100	1A Data Station, Multichannel Arrangements—Description and Operation
591-813-200	1A Data Station, Multichannel Arrangements—Installation
591-813-500	1A Data Station, Multichannel Arrangements—Tests
591-813-180	1A Data Station, Multichannel Arrangements — Summarizing Specification—Data Systems
598-073-100	Data Auxiliary Set 811G—Identification
591-813-101	1A Data Station—Single Channel Arrangements—Binary Mode—Description and Operation
591-813-201	1A Data Station—Single Channel Arrangements—Binary Mode—Installation
591-813-501	1A Data Station—Single Channel Arrangements—Binary Mode—Alignment and Tests

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SECTION	TITLE
591-813-181	1A Data Station—Single Channel Arrangements — Summarizing Specification—Data Systems
598-074-100	Data Auxiliary Set 811H—Identification
598-078-100	Data Auxiliary Set 811J—Identification
590-102-125	29-Type Data Mounting—Identification
SD-&CD-70958-01	43B1 Voice Frequency Carrier Data System
312-710-100	43B1 Voice Frequency Carrier Data System—General Description
312-710-200	43B1 Voice Frequency Carrier Data System—Out-of-Service Tests
312-710-201	43B1 Voice Frequency Carrier Data System—2- and 4-Wire Connections—Description and Installation
312-710-500	43B1 Voice Frequency Carrier Data System—Trouble Locating Tests
332-852-107	4066G Network—Description
314-410-500	Private Line Data Circuit—Voice Bandwidth Circuits for Miscellaneous Data—Overall Tests and Requirements
AB27.350	Voice Bandwidth Circuits for Private Line Data Use—2000 Series and 3002 Channels—General Information
AB83.048.01	43B1 Voice Frequency Carrier Data System—General Engineering Considerations
SD-&CD-81978	KS-20575 Rectifier

- 2.02** The apparatus required to perform the maintenance and tests is listed in (a) through (e).
- (a) KS-20538-L1 Volt-Ohm-Milliammeter, or equivalent
 - (b) J79901B-L3 Data Test Set (cover only of the 901B Data Test Set, also called interface test adapter)
 - (c) Small duck-bill pliers (KS-6015) for inserting jumper wires into quick-clip 216A terminals (strapping)
 - (d) KS-18835 Telegraph Carrier Test Set (Stelma)
 - (e) 911A Data Test Set, or equivalent.

3. MAINTENANCE PROCEDURES

A. General

3.01 Figure 1 is presented for orientation and definition purposes, and is intended to be used as a reference while reading the text. Maintenance of the 1A Data Station should be in accordance with the flowcharts shown in Fig. 2 through 6. The flowcharts are recommended for an organized trouble investigation with a minimum amount of time spent in locating the cause of the trouble report by the customer.



The numbers in brackets [] refer to the numbered blocks in the flowcharts.

3.02 Maintenance of the 1A Data Station may conveniently be divided into two main categories: preliminary tests to determine if a trouble exists in the station or in an associated feature, such as the transmission facility; and the procedure to isolate a station trouble to a particular component.

3.03 The TTY or CPT station contains a carrier-fail (CF) lamp and test keys which the customer may use to assist the STC to determine whether a maintenance employee should be dispatched to the station.

3.04 The amount of preliminary testing which may be done at the STC is limited by the amount of test equipment available. Reference should be made to sections in the 660-YYY-ZZZ series for detailed instruction on procedures for testing.

3.05 The detailed procedure for performing tests (eg, voltage measurements, limits) when indicated in the flowcharts is covered in the test practice (591-813-501).

B. Trouble Isolation Prior to Dispatching Personnel

3.06 The following procedure will *not* be performed by the Telco personnel *at the 1A Data Station*. The procedure is presented to help the Telco employee be aware of steps taken prior to his being dispatched to the 1A Data Station at the customer location.

3.07 The first sign of trouble will usually be evident at the receiving end of the circuit and will result in a customer report of nonreceipt of data or of garbled copy, etc. The Telco employee *who receives the trouble report* must then make an attempt to determine if the trouble is in (a) the TTY or CPT equipment at either end, (b) the voice facilities between the 1A Data Stations, (c) the transmitter at one end of the circuit, or (d) in the receiver at the other end of the circuit, in order to determine how many Telco personnel to dispatch and to which end(s).

3.08 When the system is 2-wire with a 1A Data Station at each end and the circuit does not pass through a Central Office (CO), dispatch an employee to each end.

1A Data Station-to-1A Data Station Direct—(the Circuit Does NOT Pass Through a Central Office) (Fig. 2)

3.09 When a west customer reports that he is not receiving data from the east customer [1], request the east customer to transmit data [2]. Request the west customer to observe the status of the CF lamp [3].

3.10 If the west CF lamp is lighted, dispatch Telco personnel to both ends [4]. If the west CF lamp is not lighted and a DP61 or DP66 circuit pack is installed, proceed to 3.12.

3.11 If the west CF lamp is not lighted and a DP67 circuit pack (HDX only) is installed in the channel, determine if the east customer receives data. If so, dispatch Telco personnel to the east end [5]. If the east customer does not receive data, proceed to 3.12.

3.12 When the west CF lamp was observed and found to be lighted, with a DP61 or DP66 circuit pack installed in the channel, or if the east customer does not receive data, request the west customer to operate his TEST key [6]. (The local copy option, if installed, must be removed at the east end by Telco employee.)

3.13 If the east customer does not receive the looped back data, dispatch Telco personnel to both ends [4]. Should the east customer receive the looped back data, the trouble is in the west TTY or CPT transmitting equipment [7].

1A Data Station-to-1A Data Station (the Circuit Does Pass Through a Central Office) (Fig. 3)

3.14 When a west customer reports that he is not receiving data from the east customer [1], request the east customer to transmit data [2]. Request the west customer to observe the status of the CF lamp [3].

3.15 If the west CF lamp is lighted, proceed to 3.19. If the west CF lamp is not lighted and either a DP61 or DP66 circuit pack is installed in the channel, proceed to 3.17.

3.16 If the west CF lamp is not lighted, and a DP67 circuit pack (HDX only) is installed in the channel, determine if the east customer is receiving data. If the east customer received data, dispatch Telco personnel to the east end [4]. If the east customer does not receive data, proceed to 3.17.

3.17 When the west CF lamp was observed and found not to be lighted, with a DP61 or DP66 circuit pack installed in the channel, or if the east customer does not receive data, request the west customer to operate his TEST key [5]. At the CO nearest the west end, check for the looped back transmitted signal from the west end [6].

3.18 If the west-end transmitted signal is present at the CO, the trouble is in the west TTY

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or CPT equipment [7]. If the signal is not present, proceed to 3.20.

3.19 If at the time the west customer observed his CF lamp [3] and it was found to be lighted, check at the CO nearest the west receive end for the received signal transmitted from the east end [11]. If the received looped-around signal is not present, proceed to 3.21. If the received looped-around signal is present, proceed to 3.20.

3.20 At the CO nearest the west end, request the west customer to operate his VBLA key [8]. If the loop is okay, dispatch Telco personnel to the west receive end [9]. Should the west loop not be okay, the trouble is in the facility, and the designated trouble reporting center must be notified [10].

3.21 When the signal transmitted from the east end was checked at the CO nearest the west end [11] and found not to be present, check at the CO nearest the east transmit end for the transmitted signal from the east end [12]. If the transmitted signal is present, the trouble is in the facility between the COs and the designated trouble reporting center must be notified [10]. Should the transmitted signal not be present at the CO nearest the east transmit end, Telco personnel must be dispatched to the east transmit end [13] to determine if trouble is at the east end or between east end and CO.

C. Preliminary Trouble Isolation At The 1A Data Station, SCA (Fig. 4)

3.22 When the Telco employee begins his initial trouble investigation [1], he should check the status of the TTY or CPT and 1A Data Station indicator lamps [2].

3.23 If no TTY or CPT lamps are lighted [3], the trouble is in the TTY or CPT equipment [4].

3.24 If the TEST and/or VBLA key lamp is lighted [5], operate the keys to extinguish the lamp(s) [6]. Return all circuits to normal [7]. Have the customer check the operation of the 1A Data Station, and close the trouble report [8].

3.25 Should the TTY or CPT lamps be on the CF lamp be off [9], check the CF lamp [10]. To check the CF lamp, operate the VBLA key. If

power is applied to the 1A Data Station, both the VBLA key lamp and the CF lamp will light. If the CF lamp remains off and the VBLA key lamp lights, replace the CF lamp. If neither the VBLA key lamp or the CF lamp lights, proceed to 3.26. If after replacement, the CF lamp does light, proceed to 3.27.

3.26 If the CF lamp remains off [9], check the output of the 18A power unit [11]. If the voltage and polarities of the 18A power unit are correct, proceed to 3.27. If they are not, replace the 18A power unit [12].

3.27 If the CF lamp is on [13], proceed to Fig. 4 if the Telco employee is at the receive end [14], or to Fig. 5 if the Telco employee is at the transmit end [15].

D. Binary Signal Checks—Receive End (Fig. 5)

3.28 The following procedure (Fig. 5) is a continuation of the 1A Data Station trouble investigation to be followed after the preliminary checks have been completed [2], and is to be used when tests or reports indicate that the malfunctioning portion of the system is at the receive end.

3.29 Request the far-end customer to operate his TEST key [3]. After removing the local copy option at the near end if installed, send data from the near end [4]. At the near receive end, check for the looped-back signal at TS(A) [5].

3.30 If the signal is received and a DP61 or DP66 circuit pack is in the channel, proceed to 3.33. If the signal is received and a DP67 circuit pack (HDX only) is in the channel, proceed to 3.32.

3.31 Should the level at TS(A) [5] not be as specified on the CLR (circuit layout record), check the far-end transmitted signal level at the far-end TS(A) [6]. If the level is as specified but does not appear at the near end TS(A), the trouble is in the facility [7]. Should the level of the transmitted signal at the far-end TS(A) not be correct, the trouble is at the far transmit end [8].

3.32 If the looped-back signal is present at TS(A) [5] and a DP67 circuit pack (HDX only) is in the channel, request the far-end customer to operate the TEST key to extinguish the lamp in the TEST key [9]. If the looped back signal is still present at the near end, the trouble is at the

far-end 1A Data Station [10]. Should the looped signal not be present at the near end, request the far-end customer to again operate the TEST key (lamp in TEST key lighted) [11].

3.33 If the looped back signal at the near receive end TS(A) is okay, check the level of the signal at the RCV test point [12]. If the level at the RCV test point must be adjusted to the correct level with the RCV GAIN potentiometer, a Telco employee must be dispatched to the other end to key the transmitter steady mark and steady space. After the level is adjusted with the RCV GAIN potentiometer, proceed to 3.37.

3.34 If the level at the RCV test point cannot be adjusted to the correct level, replace the line station interface (DP61, DP66*, or DP67 circuit packs) [13]. If the level is now okay at the RCV test point, proceed to 3.37.

* Early units have DP60 circuit pack (MD) installed. DP66 circuit pack is standard.

3.35 If the level at the RCV test point is still not correct after replacing the line station interface, clean the contacts of the VBLA relay [14]. If the level is now okay at the RCV test point, proceed to 3.37.

3.36 If the level at the RCV test point is still not correct after replacing the line station interface and checking the VBLA relay contacts, check and repair the wiring between the plug-ins [15]. The level should now be okay at the RCV test point [16].

3.37 Check for the signal at the LIM IN test point [17]. If the signal is received at the LIM IN test point, proceed to 3.40.

3.38 If the signal does not appear at the LIM IN test point, verify that the near-end demodulator circuit pack is of the correct number (a demodulator circuit pack that does not have a bandpass filter for passing the frequencies transmitted from the far end will result in a no-signal condition at the LIM IN test point). If the signal still does not appear at the LIM IN test point, replace the demodulator (DP26-DP50 circuit packs) [18]. If the signal is now received at the LIM IN test point, proceed to 3.40.

3.39 Should the signal not be received at the LIM IN test point after replacing the demodulator, check and repair the wiring between the plug-ins [19].

3.40 Check the level of the signal at the LIM IN test point [20]. If the level is as specified, proceed to 3.42.

3.41 If the level of the signal at the LIM IN test point is low, adjust the CF ADJ potentiometer [21]. If the CF lamp is extinguished, proceed to 3.42. If it is not possible to extinguish the CF lamp with an adjustment of the CF ADJ potentiometer, replace the receiver interface (DP51 circuit pack) [22] and proceed to 3.42.

3.42 Once the level of the signal at the LIM IN test point has been established as okay, alternately send a steady space and a steady mark from the near end [23]. If the voltages are as specified at the EIA OUT test point, proceed to 3.44.

3.43 Should the voltage not be as specified at the EIA OUT test point, replace the receive interface (DP51 circuit pack) [24]. The voltage levels should now be as specified at the EIA OUT test point [25].

3.44 If the voltage levels are as specified at the EIA OUT test point when steady mark and steady space are received, check and adjust the channel alignment [26].

3.45 Return all circuits to normal [27] and request the far-end customer to send data [28]. If the customer has no further complaint, proceed to 3.48.

3.46 Should the near-end customer still have a complaint when the far-end customer sends data, terminate the EIA connector in a 901B interface test adapter [29]. Observe a meter for keyed signal monitored at the test adapter [30]. If the levels are as specified, the trouble is in the TTY or CPT equipment [31].

3.47 If the levels of the keyed receive signals on the meter at the 901B interface test adapter are not as specified, replace the line station interface (DP61, DP66, or DP67 circuit pack) after installing strapping as indicated on the circuit order or as on the removed circuit packs. Adjust

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transmit and receive levels [32]. Check the channel alignment [33]. The meter at the 901B interface test adapter should now indicate the correct level of the keyed signals [31]. If the customer still has a complaint, the trouble is in the TTY or CPT equipment [31].

3.48 If after all the preceding tests the customer has no further complaints regarding the original trouble report, return all circuits to normal and close the trouble report [35].

E. Binary Signal Checks—Transmit End (Fig. 6)

3.49 The following is a continuation of the 1A Data Station trouble investigation to be followed after the preliminary checks [2] have been completed, and is to be used when tests or reports indicate that the malfunctioning portion of the system may be at the transmit end.

3.50 Terminate the EIA connector at the near end in a 901B interface test adapter [3]. Request the far-end customer or Telco employee to operate the TEST key [4].

3.51 Alternately key the near-end transmitter steady mark or steady space [5]. At the transmit end check for the transmitted mark and space signal at TS(A) [6].

3.52 If the signal is not present or the difference in mark and space levels is greater than ± 0.25 dB, proceed to 3.55. If the signal is present and the difference in mark and space levels is less than ± 0.25 dB, **and** either a DP61 or DP66 circuit pack is installed in the channel, proceed to 3.54.

3.53 If the signal is present at the transmit end TS(A) and the difference in mark and space levels is less than ± 0.25 dB, **and** a DP67 circuit pack (HDX only) is installed in the channel, request the far-end customer to operate the TEST key to extinguish the TEST key lamp [7]. (This removes the baseband loop-around signal at the far end.) If the mark and space signals are still being sent by the far end and detected on the receive circuit at TS(A) at the transmit (near) end, the trouble is at the far-end 1A Data Station [8]. Should the mark and space signals not be sent back by the far end and detected on the receive circuit at TS(A) at the transmit (near) end, request the far-end customer to again operate his TEST key (lamp in TEST key lighted) [9].

3.54 If the signal is present at the transmit end TS(A), check for the presence of the looped back signal on the receive side at the near transmit end TS(A) [10]. If the signal is received on the receive side TS(A), the trouble is at the far receive end [11] (see Fig. 4). However, should the signal not be present on the receive side TS(A), the trouble is in the facility [12].

3.55 When the correct level of the signal is not present at the transmit end TS(A), verify that a signal is being applied to the 901B interface test adapter [13]. Check for a signal at the EIA IN test point [14]. If the signal is present, proceed to 3.57.

3.56 If the signal does not appear at the EIA IN test point, replace the line station interface (DP61, DP66, or DP67 circuit pack) after applying the strapping to the new card the same as the one being replaced, or as required by the CLR [15].

3.57 If the signal is present at the EIA IN test point, check for the signal at the correct level at the TRMTR OUT test point [16]. If the signal is present, proceed to 3.59.

3.58 If the signal is not present at the TRMTR OUT test point, replace the transmitter (DP1-DP25 circuit pack) [17].

3.59 If the signal is present at the TRMTR OUT test point, check for a signal at the TS(A) [18]. If the signal is present, proceed to 3.63.

3.60 Should the signal not be present at the TS(A), clean the contacts of the VBLA relay [19]. If the signal is now present at TS(A), proceed to 3.63.

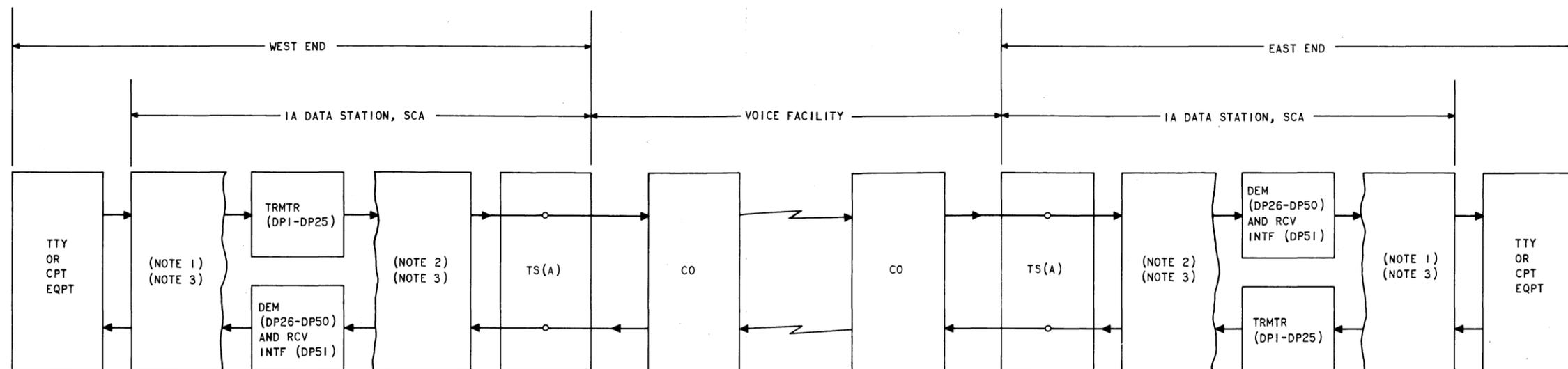
3.61 Should the signal still not be present at TS(A), and the contacts on the VBLA relay are good, replace the line station interface after installing strapping the same as in original circuit pack. Transmit and receive levels must be adjusted [20]. If the signal now appears at TS(A), proceed to 3.63.

3.62 Should the signal still not be present at TS(A), check and repair the wiring between the plug-ins [21].

3.63 After signals have been verified at TS(A), request the near-end customer to send data [22]. If the mark and space are not observed at TS(A), monitor the signals from the customer on a 901B interface test adapter to verify that the trouble is in the TTY or CPT equipment [23].

3.64 If the data signals are present at TS(A), check the channel alignment [24]. If the

customer still has a complaint, the trouble is in the TTY or CPT equipment [23]. However, should the customer have no further complaints with respect to the original trouble, return all circuits to normal and close the trouble report [25].

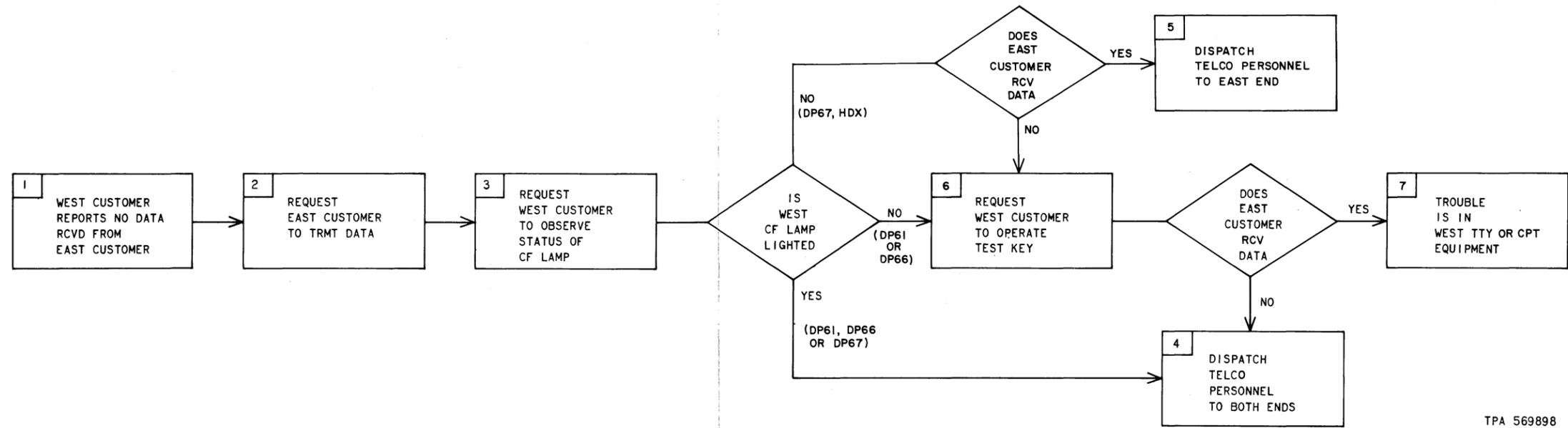


NOTES:

1. STATION INTERFACE PORTION OF THE LINE CURRENT (OR EIA) INTERFACE.
2. LINE CIRCUIT PORTION OF THE LINE CURRENT (OR EIA) INTERFACE (IDENTICAL IN DP61, DP66 AND DP67 CIRCUIT PACKS).
3. LISTING OF INTERFACES IN NOTES 1 AND 2:
 LINE CURRENT INTERFACE (DP61 CIRCUIT PACK), 20-MA, 3-WIRE, FDX OR HDX.
 LINE EIA INTERFACE (DP66 CIRCUIT PACK) VOLTAGE, 3-WIRE, FDX OR HDX (NOTE 4).
 LINE CURRENT INTERFACE (DP67 CIRCUIT PACK) 62.5-MA (OPTIONAL 20-MA), 2-WIRE, HDX ONLY.
4. EARLY UNITS MAY HAVE DP60 CIRCUIT PACK (MD) INSTALLED. DP66 CIRCUIT PACK IS STD.
5. THE NEAR END IS THAT END AT WHICH TESTS ARE BEING MADE.

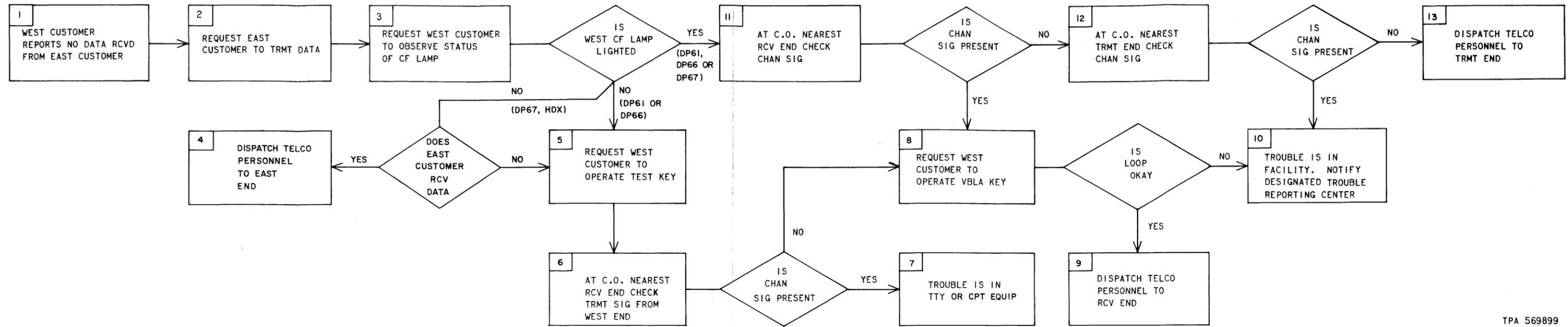
TPA 570341

Fig. 1—Orientation and Definitions—1A Data Station, SCA, Binary Mode—Block Diagram



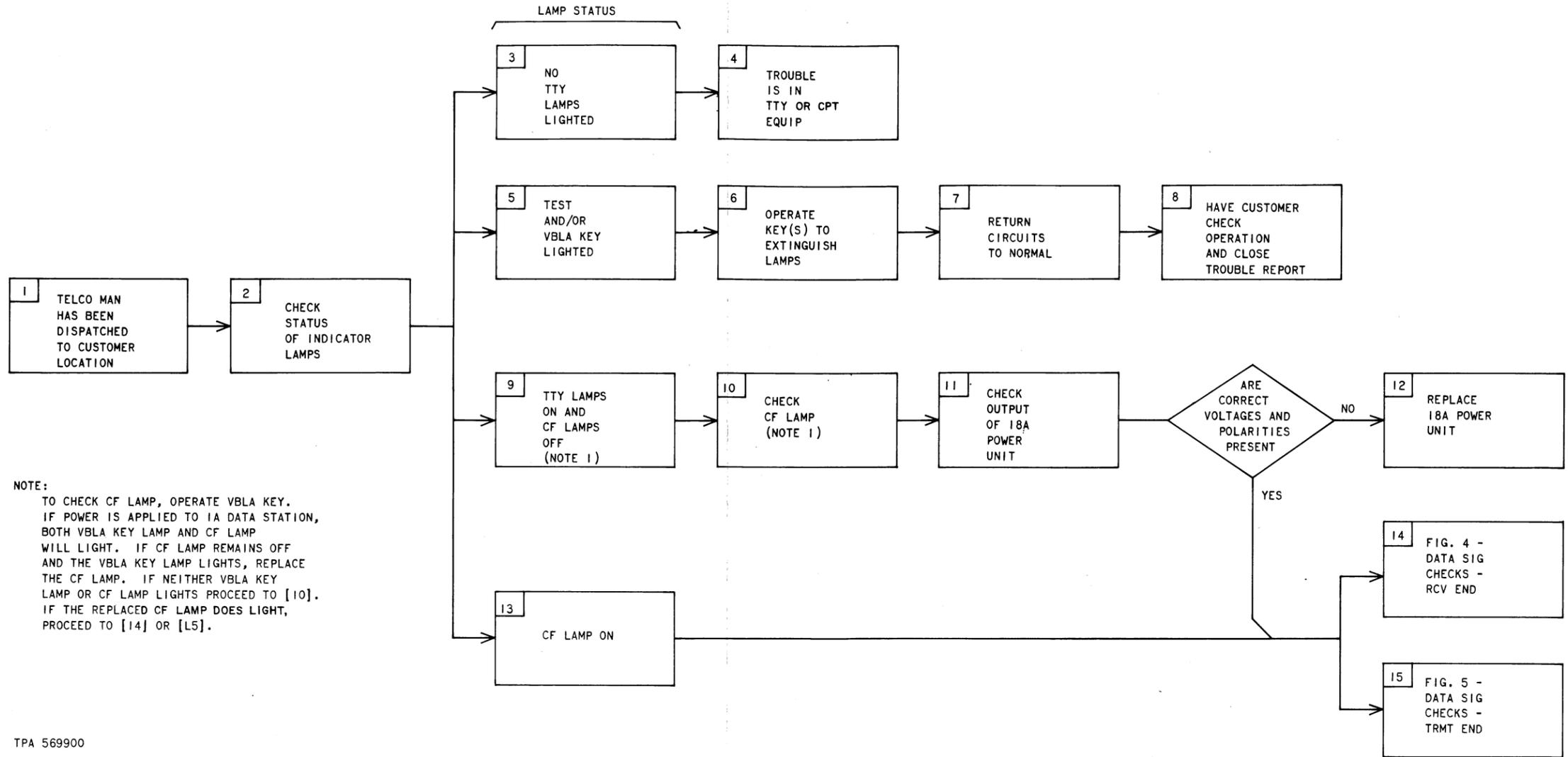
TPA 569898

Fig. 2—Trouble Isolation Prior to Dispatching Personnel—1A Data Station-to-1A Data Station, Direct (Does Not Pass Through a Central Office)



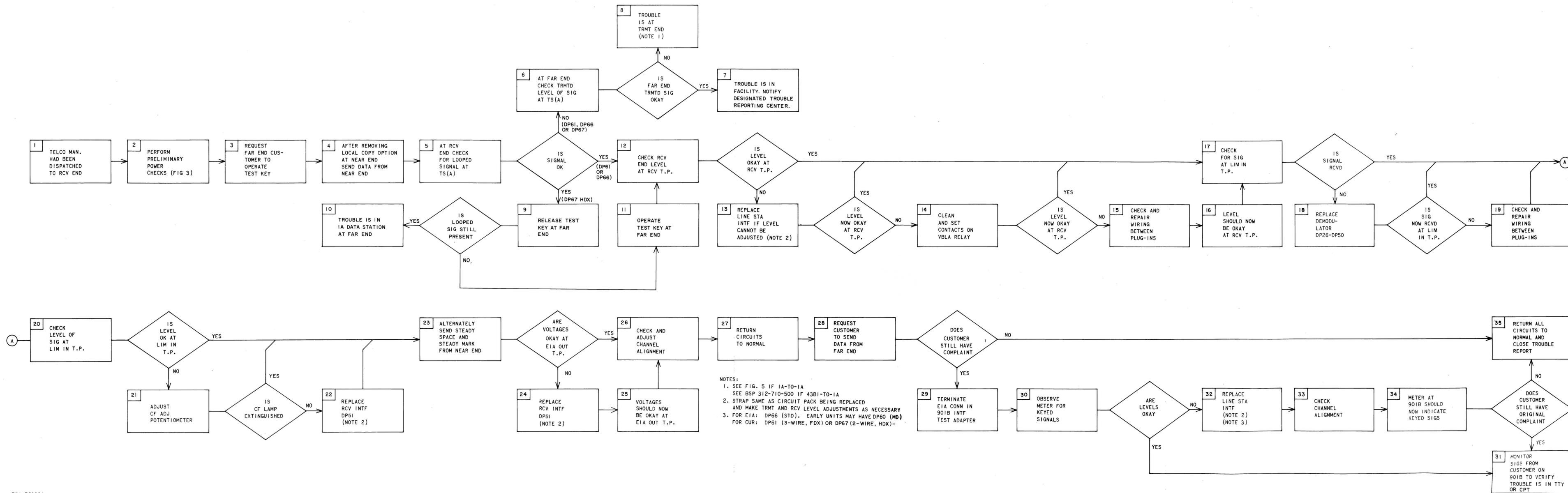
TPA 569899

Fig. 3—Trouble Isolation Prior to Dispatching Personnel—1A Data Station-to-1A Data Station Through a Central Office



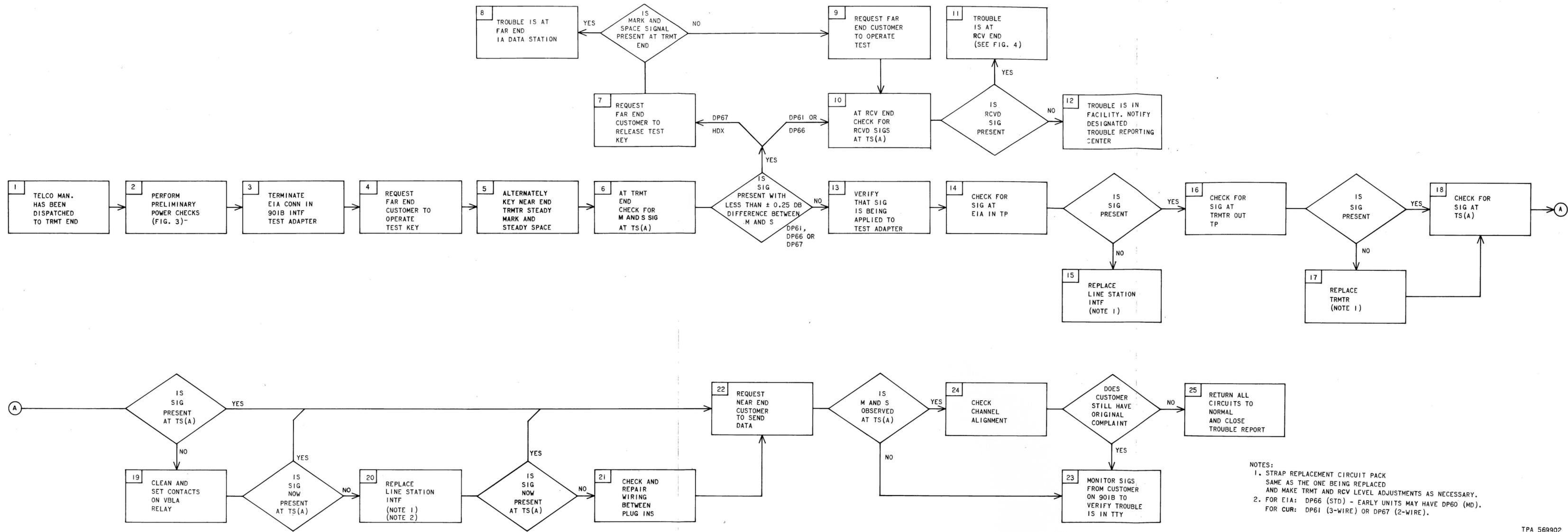
TPA 569900

Fig. 4—Trouble Isolation—Preliminary Investigation at Customer Location



NOTES:
 1. SEE FIG. 5 IF 1A-TO-1A SEE BSP 312-710-500 IF 43B1-TO-1A
 2. STRAP SAME AS CIRCUIT PACK BEING REPLACED AND MAKE TRMT AND RCV LEVEL ADJUSTMENTS AS NECESSARY
 3. FOR EIA: DP66 (STD). EARLY UNITS MAY HAVE DP60 (MD) FOR CUR: DP61 (3-WIRE, FDX) OR DP67 (2-WIRE, HDX)-

Fig. 5—Signal Checks—Receive End—1A Data Station, SCA, Binary Mode



NOTES:
 1. STRAP REPLACEMENT CIRCUIT PACK SAME AS THE ONE BEING REPLACED AND MAKE TRMT AND RCV LEVEL ADJUSTMENTS AS NECESSARY.
 2. FOR EIA: DP66 (STD) - EARLY UNITS MAY HAVE DP60 (MD). FOR CUR: DP61 (3-WIRE) OR DP67 (2-WIRE).

TPA 569902

Fig. 6—Signal Checks—Transmit End—IA Data Station, SCA, Binary Mode