# MAINTENANCE OF INTERNATIONAL RECORD CARRIER CIRCUITS
# CHANNELS TO OVERSEAS LOCATIONS
# PRIVATE LINE SERVICES

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## 1. GENERAL

**1.01** This section is intended to define Bell System plant responsibilities on international circuits provided by the International Record Carriers (IRCs) named in 1.02.

**1.02** International Record Carriers are:

- RCA Global Communications, Inc (RCAGLOBCOM)

- Western Union International, Inc (WUI)

- International Telephone and Telegraph World Communications, Inc (ITTWORLDCOMM)

- Tropical Radio and Telegraph (TRT)

- French Cable Company (FC).

**1.03** Other US companies which furnish international communication channels and/or services outside of the Continental US are:

- Communications Satellite Corp (COMSAT)

- Hawaiian Telephone Company, GT&E (HAWTEL)

- RCA Alaska Communications, RCA (RCAALASCOM).

These companies should not be considered in the same light as IRCs, and this section will not apply to plant operations related to their service.

## 2. DEFINITIONS

**2.01** The following definitions are included to clarify terms used in this section.

**2.02** ***Indefeasible Right of Use Channel (IRU):***

- a channel in a submarine cable system which has been sold by the owner to another carrier without having the title to the channel passed to the purchaser. IRCs have such rights in Bell System constructed cables, such as TAT 2, and the Bell System has

such rights in, for example, some cables constructed by the British Commonwealth.

**2.03** ***Outright Ownership Channel:***

- a channel in a submarine cable system where both ownership and title are held by a single carrier. An example can be found in the TAT 4 cable.

**2.04** ***Leased Cable Channel:***

- a channel leased to another carrier by the carrier holding title to the channel.

**2.05** ***Leased Satellite Channel:***

- a channel leased from COMSAT and a foreign carrier which extends from a US earth station to a foreign earth station. (Technically, the US carrier leases half a channel and the foreign carrier leases the other half.)

**2.06** ***Domestic Tail Section:***

- the facility section from the Tariff Gateway of an IRC to a Continental US location. This section may be provided by the Bell System, or by other US domestic carriers. This should not be confused with the "CO" segment. (See 2.07.) Common usage has resulted in this tail section being referred to as a "circuit," but the fact that this is only a part of an overall service should not be ignored. This section may also be referred to as the "CONUS" (Continental US) section.

**2.07** ***CO (Contract Overseas) Circuit:***

- a circuit section between the Bell System/IRC tariff gateway office and the US cablehead or satellite earth station. The prefix "WW" may also be used on occasion to designate this type circuit. This should not be confused with the "domestic tail section" defined in 2.06.

**2.08** ***Tariff Gateway:***

- the agreed upon official interconnection point (within the Continental US) of the Bell System with an IRC. The telephone company office which serves this interconnection point will be an STC and/or ITMC. (See Figure 6.)

**2.09** ***Foreign Terminal Section:***

- the facility section from the foreign ITMC to a more distant terminal location. This section may be furnished by one or more foreign administrations or private operating agencies.

**2.10** Three abbreviations referred to in this section and prevalent internationally are as follows:

(1) CCITT—International Telephone and Telegraph Consultative Committee

(2) CCITT (Series M) Recommendations—Maintenance guidelines proposed by the CCITT in its White Book Volume IV

(3) ITMC—International Transmission Maintenance Center.

## 3. COMPOSITION AND IDENTIFICATION OF CIRCUITS

**3.01** The overseas segment of an IRC circuit may be provided as an IRU channel, an outright ownership channel, or as a leased channel per 2.04 or 2.05.

**3.02** The composition of a total circuit may therefore be considered to have the following segments (see Figure 1):

(1) A segment from the US circuit terminal (customer location) to the IRC Tariff Gateway location. This is the domestic tail section.

(2) A segment from the IRC Tariff Gateway location to either the cablehead or the satellite earth station. This is the CO (or WW) circuit.

(3) The overseas segment either via submarine cable or satellite.

(4) A foreign segment to complete the circuit to the foreign terminal. This is the foreign terminal section.

**3.03** For the purposes of this section it will be assumed that the portions of a circuit falling within the Continental US are Bell System provided.

While other options are available to an IRC or a customer, the exercise of such options should not involve the Bell System in any direct responsibility.

**CIRCUIT IDENTIFICATION**

**3.04** No single designation plan is accepted by all those involved for identifying a complete end-to-end circuit although some ***segments*** may conform to CCITT (M Series) Recommendations. Therefore, the individual ***segments*** of a single circuit carry unique identities and in some cases involve as many as four separate identifications, depending upon the organizations concerned and the type of circuit in question.

**3.05** Each ITMC or STC should, to the degree practical, correlate the various circuit numbers so as to enable as smooth a working relationship with all others as possible.

**3.06** In general, designation of the various segments is as follows:

- Domestic Tail Section—standard Bell System designations. This segment relates to 3.02 (1).

- That segment discussed in 3.02 (2) will be designated as "CO" followed by a number and the terminals of the circuit.

Examples are: CO 1245 NEW YORK PARIS, CO 12345 MIAMI FL. SAN JUN PR. It should be noted that the foreign location may be specified rather than the US cablehead or earth station location as one of the terminals. It is also possible for an IRC to obtain group or supergroup capacity from the Bell System. In such a case the prefix "WW" will be used instead of "CO."

- The overseas segment will be known by the cable or satellite system designation [3.02 (3)].

- The foreign terminal section [3.02 (4)] will be identified by the furnishing carrier or party.

## 4. MAINTENANCE RESPONSIBILITIES

**GENERAL**

**4.01** The IRC holds basic responsibility for the overall circuit. In addition, each carrier has responsibility for that portion (of the overall circuit) which it provides. Bell System responsibilities under various circumstances are considered in subsequent paragraphs.

**4.02** Special contractual arrangements have been agreed to between the Bell System and the three IRCs (RCAGLOBCOM, WUI, and ITTWORLDCOMM) whereby Bell System offices assume certain functions normally performed by the IRC. This arrangement covers only selected US government services, and this section will not apply in such cases. Advice to any central office which becomes involved in this special situation will be via line of organization although Section 309-200-011 AT&T Special (Preliminary) has been issued to cover details in dealing with the circuits affected.

**4.03** On individual "CO" and "WW" services, the Telephone Company control office is entitled to periodic releases for maintenance activity. No report for credit allowance for such releases will be made. For single circuits, such a release can occur once each 24 hours. In all cases, this release time should be mutually agreeable. In the absence of any specific continuing agreement, turndown will be proposed by the telephone company subject to the conditions of 4.04.

**4.04** The IRC ***must*** be given adequate notice for a release of a circuit for routine purposes. For the purpose of this section, adequate notice is defined as 16 hours or more before the requested release time, unless a specific recurring release time has been agreed to previously.

**US CIRCUIT TERMINAL TO TARIFF GATEWAY**

**4.05** The maintenance of this circuit is a telephone company responsibility and, in general, the requirements of Section 660-201-010 will apply. However, as these domestic "tail sections" interconnect at specific locations of the IRCs, some special considerations are necessary.

**4.06** The IRC will make all arrangements for customer reporting on the circuit. In addition, the IRC is responsible for all end-to-end tests (domestic plus overseas sections) and must make suitable arrangements for these. Any arrangement which places the telephone company in the position of overall testing, that is, testing from a domestic location through the IRC gateway and over the international (or foreign) segments to a foreign terminal, must be agreed to by the appropriate Headquarters staff organization. Such agreement would be indicated to field locations via the normal lines of organization. This does not prohibit end-to-end carrier testing where a group or supergroup is developed between a Bell System location and a location outside the Continental US.

**4.07** Under the procedures outlined above, it will be necessary to insure that all trouble clearances are reported back to the IRC in a timely manner. This "feedback" must occur even if the office serving the IRC location is ***not*** the circuit control office.

**4.08** It is assumed that the US circuit terminal is ***not*** an ITMC handling the overseas portion of the overall circuit, and that this office ***is*** the STC for the IRC location involved. It may also be the circuit control office for the domestic tail section.

**4.09** The office which serves the IRC tariff gateway location may or may not be the circuit control office; however, it will automatically become the contact office to deal with the IRC. The control office may make a subcontrol designation in accordance with standard procedures, Section 660-210-010.

**4.10** On occasion, the domestic tail section is directly ordered by a customer to terminate at an IRC location as opposed to ordering by the IRC. This domestic tail section is still part of an overseas service, and the IRC must make arrangements for customer reporting and overall testing. Exceptions require prior agreement.

**4.11** All orders for the domestic tail section will be via System Service Order procedures issued in conformity with existing tariffs. Intercompany Services Coordination BSPs should be followed in establishing these services.

**4.12** Outages which amount to 30 minutes or more for a single continuous case of trouble must be reported by the Bell System domestic tail section control or subcontrol office to the accounting office specified on the COLR card. This is necessary whether the actual trouble is in the domestic tail section or on some other portion of the overall circuit for which the Bell System has no responsibility.

**4.13** Periods of time less than 30 minutes of outage should not be consolidated, unless, of course, these occur during a single case which extends over a longer period of time.

**4.14** Normal mechanized procedures will be followed in reporting outage time. In the event the actual trouble is outside of Bell System responsibility and would result in a "nonclassified" or "memo" disposition of the report, the outage information should still be reported. No penalty for results measurement will occur in such cases.

**4.15** A report of an outage may be received by a noncontrol telephone company office. This office must assure the relay of necessary information to the control office so that an appropriate report is possible.

**4.16** Plant central offices should not accept the responsibility of reporting outages for the purposes of credit allowances which are not made known to one of the central offices involved in providing the service ***within 24 hours of the time of the interruption.*** Verifying claims of past interruptions and arranging with their Telephone Company Sales contacts for any credit allowances that might be agreed to are IRC responsibilities.

**4.17** Figure 6 lists the various International Record Carriers and their current Continental US gateway locations. Where the city mentioned has more than one private line central office, or more than one functional group within a single central office which may interconnect with the same IRC, the District Operations Office should be contacted to determine the serving office.

## US TARIFF GATEWAY TO A CABLEHEAD

**4.18** This portion of a circuit should be maintained in a manner similar to any other private line service. Responsibility for service, restoration in the event of failure, and maintenance to the

parameters specified on the System Service Order, etc, rest with the serving central offices.

**4.19** Physical maintenance of the submarine cable section is a telephone company responsibility. Such measures as are necessary to insure continued operation of this undersea section will be taken. Excessive power levels which jeopardize service in the entire cable will be referred to the responsible party. If corrective action is not taken immediately, the offending circuit should be terminated at the most appropriate point by the telephone company office. No report for credit allowance will be made for such an interruption.

**4.20** Trouble conditions should be rectified as promptly as possible. This may be accomplished by clearance of the trouble, but in prolonged cases reroutes should be considered and used as appropriate. ***Attention should be paid to NCS circuit priorities*** as shown on the COLR card. (See 4.33, 4.34, and 4.35.)

**4.21** In a case of trouble which affects only one direction of transmission, the IRC may elect to continue transmission in the good direction. Such a wish should be honored. However, if this delays the clearance of the trouble, then a report for credit allowance will not be made. On the other hand, if the interruption in one direction destroys the full usefulness of the circuit, both directions should be turned down and a report for credit allowance made in the case of outage time equaling 30 minutes or more.

**4.22** Reports of outages eligible for credit allowance will be made as specified to the central office which must file such a report.

**4.23** In-service testing of "CO" and "WW" services reported in trouble by an IRC involves risks of interruption for which the telephone company would be responsible and ***such testing will not be done.***

**US TARIFF GATEWAY TO A SATELLITE EARTH STATION**

**4.24** The segment between a Bell System STC (or ITMC) and the earth station interface office will be treated the same as any other telephone company leased circuit.

**4.25** Reports of interruptions for credit allowance should be made as specified in 4.20 and 4.21.

**OVERSEAS SEGMENT, CABLEHEAD OR SATELLITE EARTH STATION TO LIKE OVERSEAS POINTS**

**4.26** In submarine cable systems, the "IRU" channels and those with outright ownership by the IRCs will be maintained in a manner similar to Telco owned channels. For satellites, the earth station to earth station portion is a COMSAT responsibility.

**4.27** Channels leased by the IRC from the Telco carry a service responsibility and a restoration responsibility in the event of failure. Should such a channel fail, efforts should be made to reroute the service to another Bell System-owned channel.

**FOREIGN SEGMENTS**

**4.28** All foreign segments are the responsibilities of the IRC and the furnishing foreign carrier. US Telco locations are not expected to become involved in activities occurring in these sections, except in sectionalization of a trouble. We could assume, in general, the procedures recommended by the CCITT would be followed as covered in its Volumne IV document.

**OVERALL RESPONSIBILITY (USER-TO-USER)**

**4.29** The IRC is responsible for the overall maintenance of the circuit between its customer locations. Such responsibility includes accepting trouble reports from the customer, trouble investigation and sectionalization, trouble data analysis, routine maintenance, etc. End-to-end (overall) testing by the telephone company is not required (see 4.04).

**4.30** An exception to the general rules of trouble reporting and responsibility may occur in serving a US customer location. If a telephone office undertakes overall "STC" responsibility, it requires a specific agreement (similar to 4.06) prior to starting the service.

**4.31** The telephone company shall not provide means for an IRC to communicate with his US customer location or any foreign carrier office or customer location (other than regular commercial telephone service). Telephone company order wires, cable order circuits, etc, should not be used.

**4.32** A case of marginal trouble can always occur in which independent efforts can neither determine the actual fault nor affix responsibility

for further efforts to find its location. In such cases telephone company offices should cooperate with the IRC in making logical tests in order to determine the cause or source of the difficulty, even if such efforts seem to exceed the limits mentioned in this section. However, these instances must be based on an actual incident of trouble where normal efforts have proved unsuccessful in restoring good service to the customer. Any questions regarding such a case should be promptly referred to appropriate management levels.

**RESTORATION**

**4.33** Restoration procedures for group, supergroup, or other broadband facility sections are not included in this section.

**4.34** The restoration of circuit sections within the US domestic network will be made on a normal basis, considering NCS priorities. For overseas circuit sections, two considerations apply as follows:

(1) For IRU or outright ownership circuits, the affected IRC must designate the means of restoration using his own channels or prearrangement for the use of another carrier's channel.

(2) For overseas channels leased from Telco, restoration should be made by the Telco control office.

**4.35** Four restrictions also apply in connection with the overseas channels. First, no IRU or outright owned IRC channel may be used for the restoration of a Telco leased channel, even though such a channel may appear spare, without prior arrangement through Long Lines Headquarters Overseas Administration. A request for such agreement should follow line of organization, unless standing instructions have been established to the contrary. Second, one IRCs channel may not be used to restore another IRCs service unless both carriers agree and so notify the proper Telco office. Third, no overseas channel may normally be used in restoration if the difficulty lies in the US domestic section. However, if a facility rearrangement is made by the Telco which results in channels carrying IRC services failing to appear at voice frequency (with adequate patching capability) at the US earth station (Telco office) or cablehead, then overall restoration may be made (channel bank to channel bank) even though the trouble is in the domestic portion. Fourth, in some cases of satellite routed groups which do not appear at voice frequency at the earth station interface office, some individual channels appear spare. The use of one of these "spare" channels in overall restoration must be arranged by Long Lines Headquarters Overseas Administration with COMSAT. Notification via line of organization may be made after restoration is completed but must be as soon as possible.

**5. TROUBLE REPORTING AND SECTIONALIZATION**

**5.01** This part is intended to indicate the activity expected and the responsibility of both the IRC and Telco in each step of trouble reporting and investigation.

**5.02** The flow charts shown in Figures 2 through 5 depict a typical event and series of actions expected to occur in the normal case. However, this is not intended to preclude the exercise of sound management judgment in unusual cases.

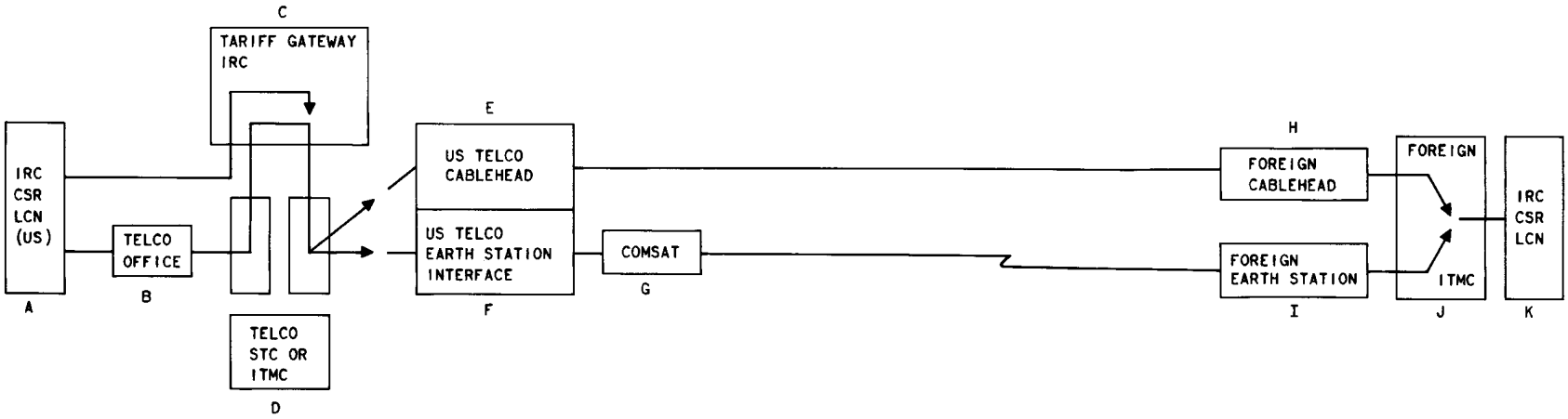
**5.03** A typical trouble report would be received by the IRC. Subsequent investigation would be as described in:

Figure 2—IRC Voiceband Circuit, Satellite Channel, Voice Frequency at the US Earth Station

Figure 3—IRC Voiceband Circuit, Undersea Cable Channel, Voice Frequency at the US Cablehead

Figure 4—IRC Voiceband Circuit, Satellite or Cable Channel, High Frequency At US Earth Station or Cablehead

Figure 5—IRC Wideband Circuit, Satellite or Cable.




| CIRCUIT SECTION | RESPONSIBILITY | PARTIAL PARAGRAPH REFERENCES |
|---|---|---|
| A - C | IRC | 2.06 4.01 4.06 |
| A - B - D - C | TELCO / IRC | 2.06 4.01 4.05 4.09 4.12 4.15 |
| C - D | TELCO / IRC | 2.07 2.08 3.06 |
| D - E D - F | TELCO | 2.07 2.08 3.06 4.18 |
| F - G | TELCO / COMSAT | TELCO - COMSAT INTERFACE |
| E - H | TELCO | 2.02 2.03 2.04 4.26 4.27 |
| G - I | COMSAT / INTELSAT | 2.05 4.26 4.27 |
| H - J - K | FOREIGN ADMINISTRATION | 2.08 4.28 |
| I - J - K | FOREIGN ADMINISTRATION | 2.08 4.28 |
| A - K | IRC | 4.04 4.29 THRU 4.32 |

**Fig. 1—Division of Testing Responsibility—Typical IRC Circuit**

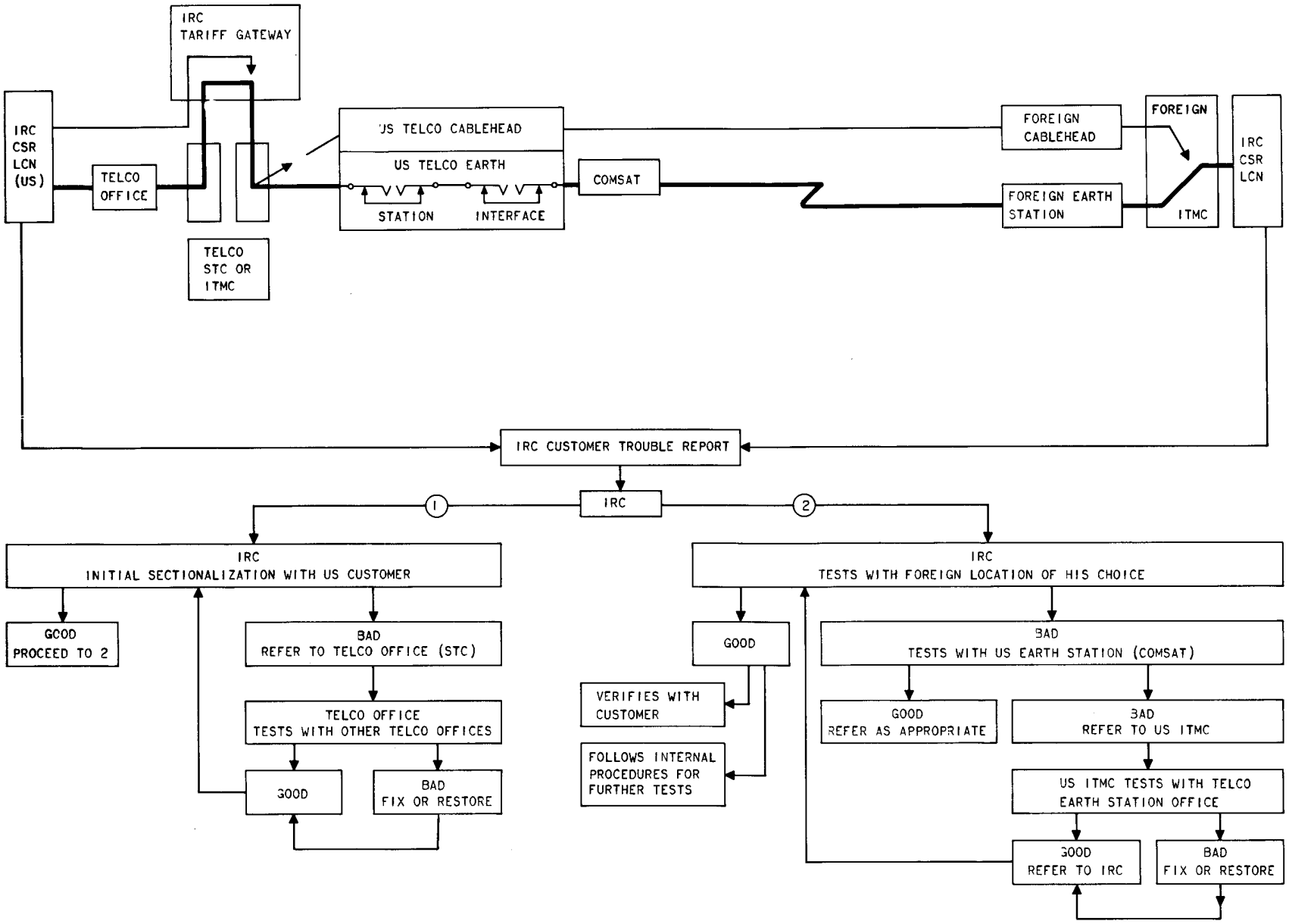



**Fig. 2—Trouble Investigation—Typical IRC Circuit Using a Satellite Channel—Voice Frequency at US Earth Station**

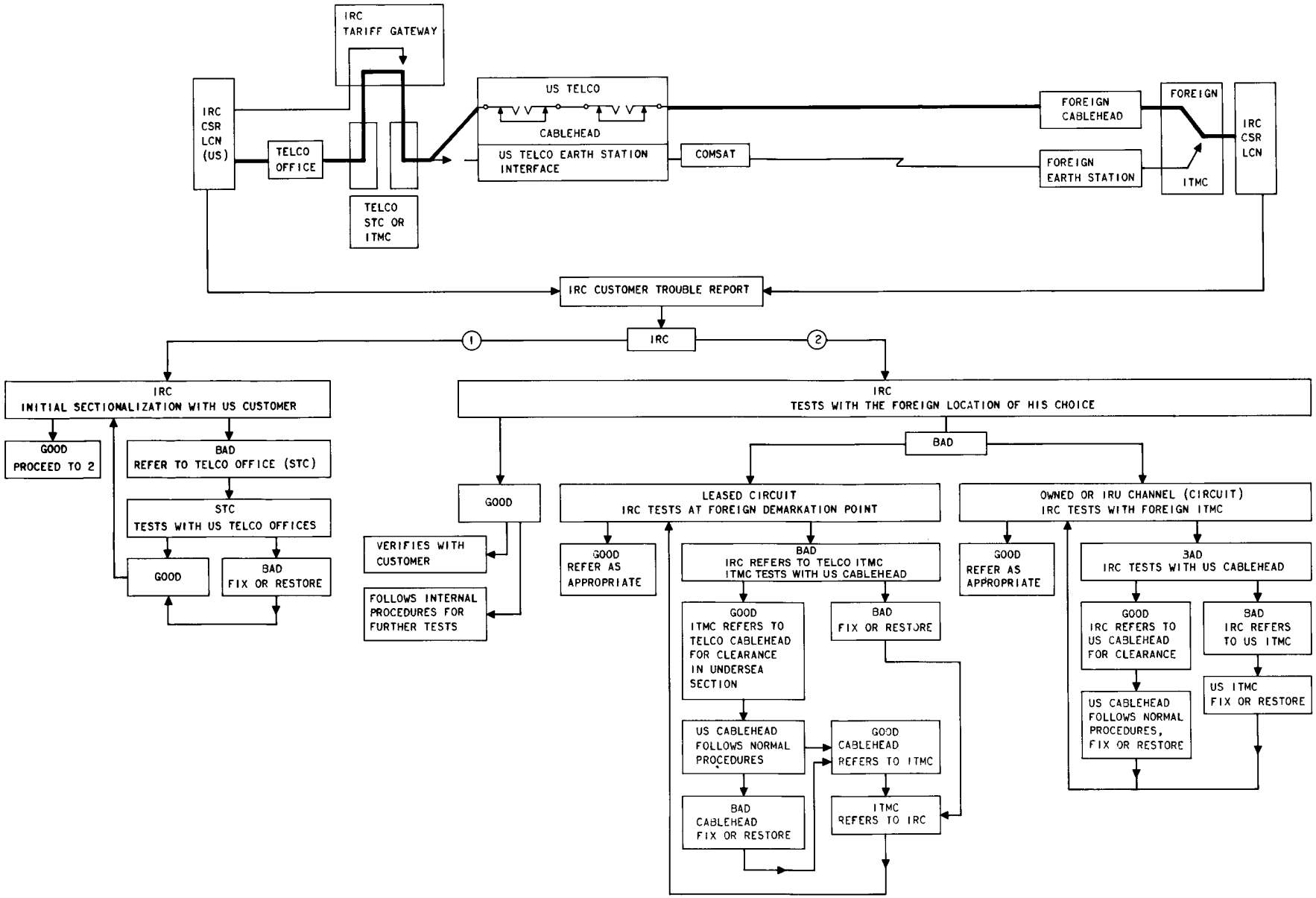



**Fig. 3—Trouble Investigation—Typical IRC Circuit Using an Undersea Cable Channel, Voice Frequency at the US Cablehead**

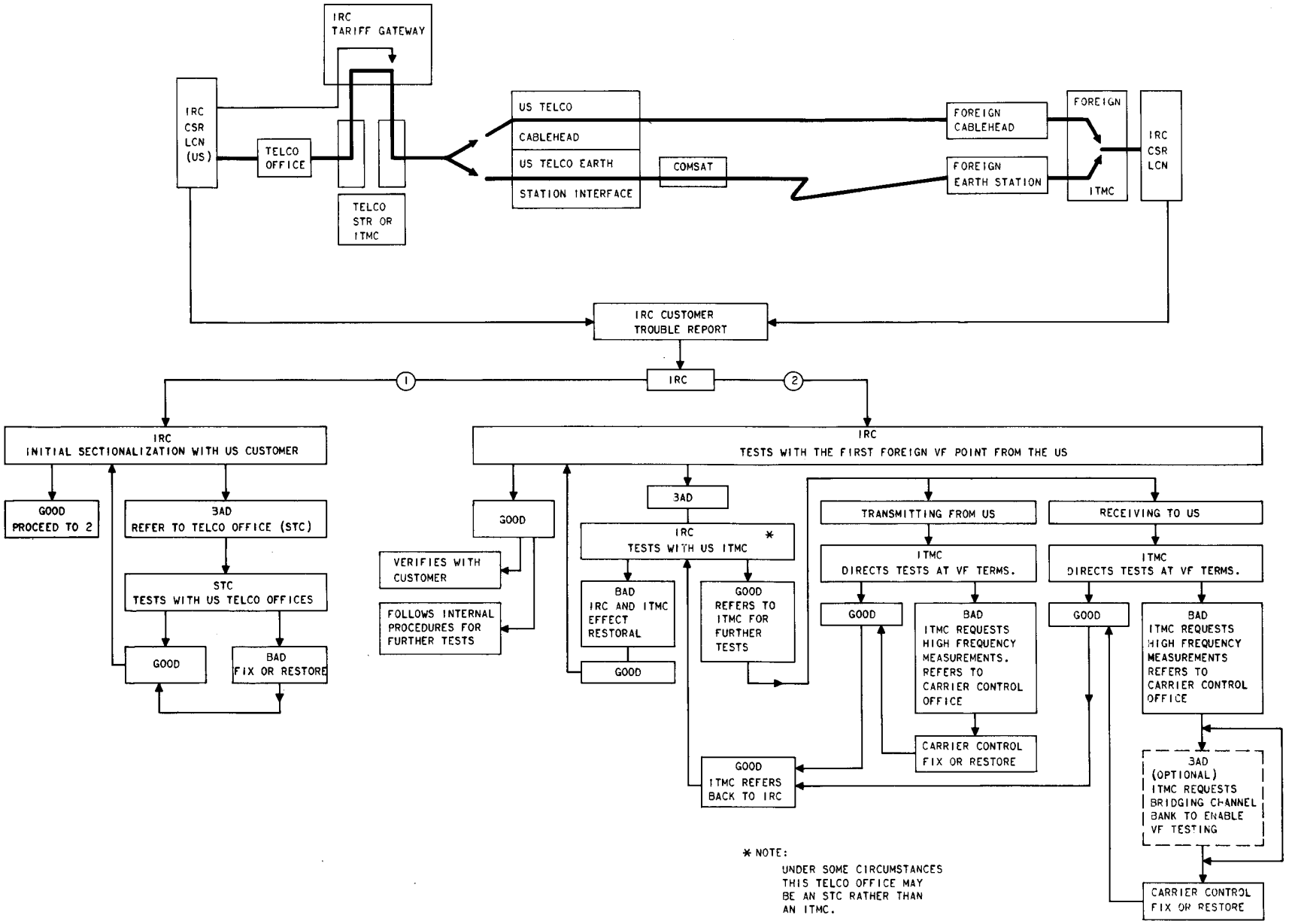



**Fig. 4—Trouble Investigation—Typical IRC Circuit, High Frequency at US Cablehead or at US Earth Station**

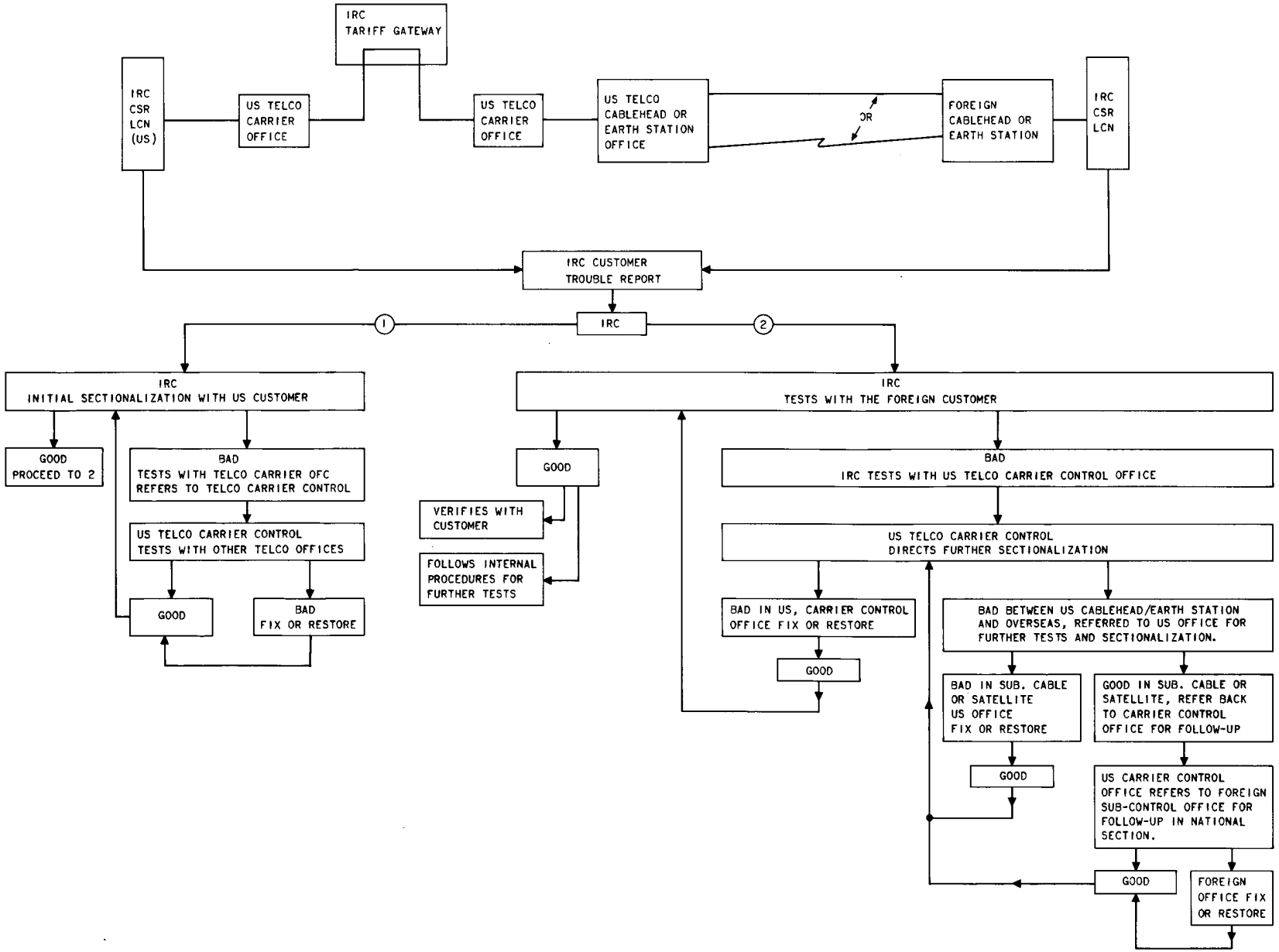



**Fig. 5—Trouble Investigation—Typical IRC Wideband Circuit Using Either Submarine Cable or Satellite**

| IRC | GATEWAY CITIES | TELCO DISTRICT |
|---|---|---|
| Radio Corporation of America, Global Communications, Inc (RCAGLOBCOM) | New York, NY<br>Washington, DC<br>Miami, Fla<br>San Francisco, Calif | NY PL Telephone<br>Washington, DC<br>Miami, Fla<br>PT&T Special Service District, San Francisco, Calif |
| Western Union International, Inc (WUI) | New York, NY<br>Washington, DC<br>Miami, Fla<br>San Francisco, Calif | NY PL Telephone<br>Washington, DC<br>Miami, Fla<br>PT&T Special Service District, San Francisco, Calif |
| International Telephone and Telegraph World Communications, Inc (ITTWC) | New York, NY<br>Washington, DC<br>Miami, Fla<br>San Francisco, Calif | NY PL Telephone<br>Washington, DC<br>Miami, Fla<br>PT&T Special Service District, San Francisco, Calif |
| Tropical Radio and Telegraph Co (TRT) | Miami, Fla<br>New Orleans, La | Miami, Fla<br>Jackson, Miss |
| French Cable Co (FC) | New York, NY | NY PL Telephone |

**Fig. 6—International Record Carrier Official Gateways—Telco Districts (for Interconnection of a Domestic US Circuit)**