

SC-10. Inspection: Inspection of the supplies, materials, equipment, services, and for work to be performed under this specification shall be made by technical inspectors of the [redacted], at the job site and/or at such places as determined by the Contracting Officer.

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SC-11. Contract Drawings and Specifications: Three (3) sets of specifications will be furnished to the contractor without charge. Work shall conform to these drawings: -

<u>DRAWING NO.</u>	<u>SHEET NO.</u>	<u>TITLE</u>
[redacted]	1	Floor Plan
"	2	Trunking Schematic
"	3	TDF and IDF
"	4	Main Distributing Frame
"	5	Shelf Location

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SC-12. Government-Furnished Property: The government will furnish without cost to the contractor, necessary electric power for the installation of dial equipment at the job site.

SC-13. Spare Parts: The contractor shall provide a two-year supply of spare parts for maintenance of the dial exchange and all equipment provided. A list of spare parts to be provided by the contractor shall be submitted to the [redacted] for review and approval prior to award of the contract.

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SPECIFICATIONS FOR PROVIDING AND INSTALLING A FOUR HUNDRED (400) LINE AUTOMATIC TELEPHONE SWITCHING SYSTEM, INCLUDING TRUNKING EQUIPMENT, AND PERFORMING ALL NECESSARY ASSOCIATED WORK, COMPLETE.

PART I

STATEMENT OF WORK

SW-1. Description of Work:

a. Work to be done: The project consists of supplying and installation of equipment and material required for a 400-line, 48-volts, Strowger linefinder type (non-attended) automatic telephone switching system, and associated test equipment, signaling equipment, power equipment, trunking equipment, including first selectors for the [redacted] dial office. All work shall be carried out in strict accordance with the technical provisions, general conditions, and listed drawings, all of which are made a part hereof and designated as follows:

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SPECIFICATIONS FOR PROVIDING AND INSTALLING A FOUR HUNDRED (400) LINE AUTOMATIC TELEPHONE SWITCHING SYSTEM, INCLUDING TRUNKING EQUIPMENT AND PERFORMING ALL NECESSARY ASSOCIATED WORK, COMPLETE, AT [redacted] FOR THE PAX INSTALLATION AND THE [redacted] DIAL OFFICE FOR THE TEN (10) INCOMING FIRST SELECTORS, [redacted]. (Drawings as specified in paragraph SC-11 of the Special Conditions).

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SW-2. Location of work: The sites of the work contemplated under these specifications are the [redacted] for the PAX installation and the [redacted] dial office for the incoming first selectors all on [redacted].

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SW-3. Principal Features: The project includes the following principal features:

a. Supply and install all equipment (except that to be government-furnished) for a 400-line, 48V, Strowger linefinder type, automatic telephone switching system, associated test equipment, signaling equipment, power equipment and trunking equipment, complete.

b. Furnish a two-year supply of spare parts for maintenance of the dial exchange including tools as listed in the Technical Provisions.

c. Furnish two (2) copies in English of a complete set of drawings of all equipment provided and installed, including schematic wiring and equipment detail drawings and a complete set of operating instructions and circuit description of all equipment provided and installed.

Note: The foregoing general outline does not in any way limit the responsibility of the contractor to perform the work and furnish all supervision, plant, labor, materials, equipment supplies, transportation, including fuel, power and water, (except materials and services which are to be furnished by the government) required by the specifications and drawings referred to herein.

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SPECIFICATIONS

PROCUREMENT AND INSTALLATION OF A 400-LINE AUTOMATIC TELEPHONE SWITCHING SYSTEM AND PERFORMING ASSOCIATED WORK

ITEM NO. 1:

Specifications for furnishing, placing and installing a complete telephone communication system including the necessary trunking equipment and performing all associated work.

DESCRIPTION OF WORK:

The project consists of supplying and installation of equipment and material required for a 400-line, 48-volts, Strowger linefinder type automatic telephone switching system, and associated test equipment, signaling equipment, power equipment, trunking equipment, and trunking equipment required for the [REDACTED] central office.

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GEOGRAPHIC LOCATION:

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TECHNICAL PROVISIONS:

TP-01 - The 400-line dial exchange (expandable to 600 lines) will be a three digit 48-volts, Strowger linefinder type automatic dial exchange of the non-attended type and will consists of the following types of switching equipment:

- (1) Subscriber line equipment
- (2) Linefinders
- (3) Local first selectors, equipment with dial tone
- (4) Incoming first selectors
- (5) Regular connectors
- (6) Test connectors
- (7) Regular and special outgoing repeaters
- (8) Test distributor
- (9) Special digit absorbing second selectors, for handling the service codes as indicated below:

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<u>Service Codes</u>	<u>No. of Trunks</u>
113 - Information	2
114 - Repair service	2
117 - Fire	2
119 - Reverting call	1

SERVICE REQUIRED:

TP-02 - The supplier shall provide the following items of equipment for the automatic telephone switching system:

(1) Linefinder unit	ea	4
(2) Linefinder	ea	40
(3) Linefinder frames	ea	2
(4) Connector unit	ea	4
(5) Connector	ea	44
(6) Test distributor	ea	1
(7) Test connector	ea	4
(8) Connector frame	ea	3
(9) Outgoing repeater	ea	10
(10) Outgoing repeater shelf	ea	1
(11) Outgoing repeater frame	ea	1
(12) Special service repeater	ea	6
(13) Incoming and local first selector	ea	50
(14) Special second selector digit absorbing	ea	4
(15) Selector bank	ea	6
(16) Selector frame	ea	2
(17) TDF frame	ea	2
(18) Distributing fuse panel	ea	1
(19) Traffic meter (with mtg plate)	ea	10
(20) Relay bay for mounting traffic meters and miscellaneous equipment	ea	1

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- |      |                                                                                                          |    |   |       |
|------|----------------------------------------------------------------------------------------------------------|----|---|-------|
| (21) | Main distributing frame equipped and modified, 8 verticals, 5 horizontals, as per dwg [REDACTED], sht 4. | ea | 1 | 25X1A |
| (22) | IDF equipped and modified, 5 verticals, 4 horizontals, as per dwg [REDACTED] TL-533, sht 3.              | ea | 1 | 25X1A |
| (23) | TDF equipped and modified, 4 verticals, 4 horizontals, as per dwg [REDACTED] TL-533, sht 3.              | ea | 2 | 25X1A |

TF-03 - Provide and install the following items of power and signaling equipment:

- |     |                                                                                                                                                                                                                                                                                                                                                                                                                          |     |   |       |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---|-------|
| (1) | Central office battery consisting of 24 sealed-in type ER or equivalent, 800 a/h storage battery with the following features: Anti-explosive construction, sulphuric spray filtering device and level indicating device. Battery rack, single tier steel. Installation to be in location shown on drawing No. [REDACTED] 533, sht 1. Tools, test equipment and maintenance accessories as required for normal operation. | ea  | 1 | 25X1A |
| (2) | 1 Set, cells dry counter EMF, 50 amp ea, 2 volt, Loran Product Corp. No WCAHD1 or equivalent.                                                                                                                                                                                                                                                                                                                            | set | 1 |       |
| (3) | Rectifier unit consisting of 2 ea, 50 amp selenium type rectifiers that are fully automatic, electronically controlled for float operation, 3 phase, full wave, self ventilating and continuous running with the following characteristics: Input voltage 200/220 volts, 50/60 cycles, AC, 3 wire, 3 phase. Output floating charge 46/55 volts 0-25 amps DC. Output manual control charge, 46/75 volts 0-50 amps DC.     | ea  | 1 |       |

The 2 rectifiers and associated power control panel are all to be contained in one case. The maximum output of the rectifiers units by manual operation shall be accomplished by placing the 2 rectifiers in parallel to provide an output of 46-75 volts 0-50 amps DC. A spare parts kit and tool repair kit plus 2 additional rectifier elements shall also be provided.

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- |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |   |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---|
| (4) | Signal generator, 25 volt capacity that will provide standard ringing current, dial tone, and busy tone and equipped with adequate interrupters to provide all signaling requirements. Motors will be of the 48 volts dc type, obtaining direct current for operation from the central office battery. A plastic type cover to provide dust protection of the interrupter contacts and a spare parts kit shall be provided for each machine. The supplier shall provide mounting facility either frame or table mounting. | ea | 2 |
| (5) | An automatic transfer circuit shall be provided and mounted on the signal generator supervisory, control and distribution bay that will provide an automatic transfer from one signal generator to the other in event of failure of any component.                                                                                                                                                                                                                                                                        | ea | 1 |

TF-04 - Provide the following items of test equipment and tools:

- |      |                                                                            |    |   |
|------|----------------------------------------------------------------------------|----|---|
| (1)  | Test set telephone (test desk) for "in" and "out" testing.                 | ea | 1 |
| (2)  | Linefinder tester                                                          | ea | 1 |
| (3)  | Connector tester                                                           | ea | 1 |
| (4)  | Selector connector tester                                                  | ea | 1 |
| (5)  | Repeater tester                                                            | ea | 1 |
| (6)  | Wiper and cord tester                                                      | ea | 1 |
| (7)  | Buttinsky with dial rubber case                                            | ea | 3 |
| (8)  | Switch adjusting stand                                                     | ea | 1 |
| (9)  | Tool kit switch adjusting                                                  | ea | 1 |
| (10) | Cleaner vacuum with complete accessory kit, 115 volt, 500 watts, 60 cycles | ea | 1 |
| (11) | Ladder 6 foot portable                                                     | ea | 1 |
| (12) | Jumper wire reel                                                           | ea | 2 |
| (13) | Soldering iron, 200 watts, 115 volts                                       | ea | 1 |

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(14) Soldering iron, 100 watts, 115 volts

- TP-05 - Provide first selector shelf, bank and 10 first selectors (short right) for the incoming trunks in the Sukiran dial office, the existing frame is a standard AECO type frame. ea 1
- TP-06 - Provide and install 10 one-way outgoing dial repeaters and shelf for the [REDACTED] dial office, the existing repeater frame in a standard AECO type frame. ea 1
- TP-07 - Provide a two-year supply of spare parts for all the dial equipment installed. lot 1
- TP-08 - Provide and install all cable required to complete installation of the dial exchange, associated power and signaling distribution. lot 1
- TP-09 - Provide and install all cable rack, iron works (floor mounting to be of the latest [REDACTED] approved channel type) and associated assembling hardware. lot 1
- TP-10 - Provide and install bank support and plastic bank protectors where required. lot 1
- TP-11 - Provide and install a jack box on the horizontal MDF including test cords for "in" & "out" testing from the local test turret. lot 1
- TP-12 - Moisture and fungus-proof all factory wiring, equipment and parts requiring this treatment. lot 1
- TP-13 - Service test all equipment provided, including I/C selectors and O/G repeaters that are assigned for trunk, before service is established. lot 1
- TP-14 - Provide 2 copies in English of the following:

(1) A complete set of drawings of all equipment provided and installed to include schematic drawings, wiring drawings, and equipment detailed drawings.

(2) A complete set of operating instructions and circuit description of all equipment provided.

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[REDACTED], sheets 1 thru 5 are as follows:

- Sheet No. 1 - Floor plan drawing
- " 2 - Trunking Schematic
- " 3 - TDF & IDF
- " 4 - Main Distributing Frame
- " 5 - Shelf Location

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SPECIFICATIONS

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PART II

TELEPHONE SWITCHING SYSTEM

ITEM NO. 2:

TP-2-01 - SCOPE: The work covered by this section of the specifications consists in furnishing all supervision, labor, plant, equipment, supplies and materials not furnished by the government, and performing all operations in connection with the installation of an automatic telephone switching system, and associated equipment and accessories, complete, in strict accordance with the section of the specifications and the applicable drawings and subject to the terms and conditions of the contract.

TP-2-02 - APPLICABLE PUBLICATIONS: The following publications of the issues listed below, but referred to thereafter by basic designation only, for a part of this specification to the extent indicated by reference thereto:

a. [REDACTED] Technical Manuals:

- (1) TM 11-471 - Manual Telephone Central Office Installation
- (2) TM 11-486 - Electrical Communication System Engineering

TP-2-03 - GENERAL: The telephone switching system shall be as indicated on the drawings and specified herein and shall be complete with all necessary accessories for proper operation. The installer shall conform to the applicable requirements and recommendations of TM 11-471 and TM 11-486, except as otherwise indicated on the drawings or specified therein. The switching device and protective devices shall be installed and thoroughly coordinated to secure the desired results with the greatest assurance of protection to life and property. If any departures from the contract drawings and specifications are deemed necessary by the contractor, details of such departures and the reason therefore shall be submitted as soon as practicable to the Contracting Officer for approval, no such departure shall be made without prior written approval by the Contracting Officer.

a. Standard Products: The equipment and material to be furnished shall be the standard products of reputable manufacturers regularly engaged in the production of such equipment and material, and shall be the manufacturer's latest standard design that complies with the specifications requirements.

b. Material and Equipment Schedules: As soon as practicable and within 45 days after the date of notice to proceed, and before purchase or fabrication of any material or equipment, the Contractor shall submit to the Contracting Officer for approval, a complete list, in triplicate, of materials and equipment to be incorporated in the work. The list shall include catalog numbers, cut diagrams and such other descriptive data as

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may be required by the Contracting Officer. Any material or equipment listed that are not in accordance with the specifications requirements may be rejected.

TF-2-04 - GOVERNMENT-FURNISHED EQUIPMENT AND MATERIAL: The government-furnished equipment and material shall be as specified in the specification, paragraph SC-12 of the Special Conditions.

TP-2-05 - CONTRACTOR-FURNISHED EQUIPMENT AND MATERIAL: The contractor shall furnish and install all equipment and material needed to complete the installation as indicated on the drawings and specified herein, except those specified to be furnished by the Government. All contractor-furnished equipment shall be suitable for incorporation and operation with government equipment and shall be in accordance with applicable American Communication Standards or Japanese Standards. The equipment and material shall be installed in accordance with the recommendations and instructions of the manufacturer of the equipment and the best standard practice for the type of equipment, and shall include, but not necessarily be limited to the following:

- a. Additional automatic switching equipment, if any, needed to complete installation of the four hundred (400) line automatic switching telephone system with ultimate capacity of 600 lines.
- b. Test turret, NEC #3 or equal, capable of performing inside and outside tests for a (600) line automatic telephone exchange.
- c. Rectifier units and all necessary power and signaling equipment.
- d. All necessary framework including:
  - (1) Main distributing frame properly equipped for terminating the subscribers lines.
  - (2) IDF, with required terminal blocks.
  - (3) TDF, with required terminal blocks.
- e. DC fuse, power distributing panel.
- f. All necessary cable racks.
- g. Office communication cables and wirings.
- h. Office power cable and wiring.
- i. Two-year supply of spare parts for maintenance.
- j. Test equipment and tools.

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TP-2-06 - REPAIR OF EXISTING WORK AND CLEANING: The work shall be carefully laid out in advance, and where cutting of floors, walls, partitions, ceilings and other surfaces is necessary for proper installations, support or anchorage of raceways, frames and other communication equipment shall be repaired by skilled mechanics of the trades involved, at no additional cost to the government. Before final operating test, the interior of the telephone exchange shall be cleaned of all debris and waste material accumulated due to the installation. Debris and waste material accumulated outside the exchange due to the installation, shall be removed. All parts of the installation shall be thoroughly cleaned.

TP-2-07 - TEST:

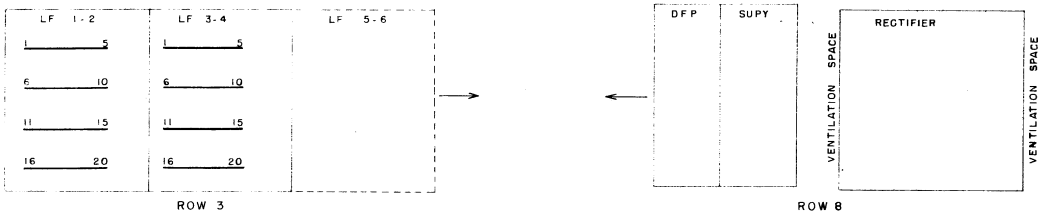
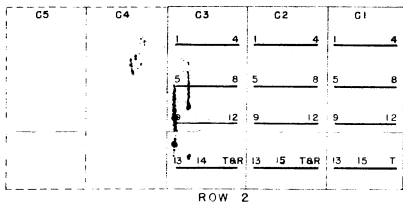
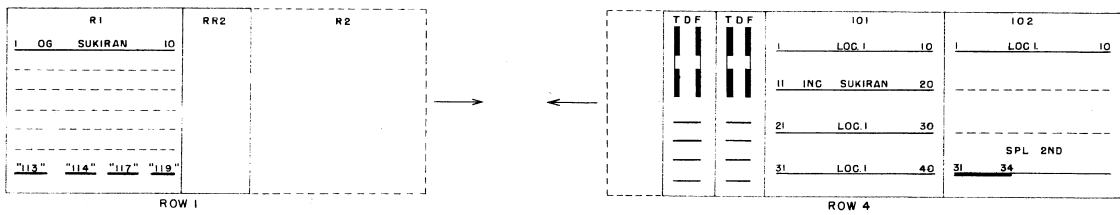
a. Installation Test: The contractor shall conduct installation tests to insure that all equipment will function satisfactorily when placed in service. All equipment and wiring forming a part of office plant installation shall be thoroughly inspected, tested and all necessary adjustments and corrections of defects shall be made prior to placing the plant in service. All circuits with operating features shall be tested for proper operation under simulated condition. All apparatus defects shall be corrected and all apparatus and wiring shall be placed in normal operating conditions before final operating tests are made.

b. Final Operating Test: After completion of the installation of all equipment and wiring and after all installation adjustments and tests have been completed, the contractor shall conduct final operating tests of the whole office plant. The test shall be made in the presence of the Contracting Officer or his authorized representative at such time as the Contracting Officer may direct. The test shall demonstrate that all components of the plant are working properly under actual working conditions. The test shall cover a period of not less than 16 hours to permit observation of the office plant under actual operating conditions. The contractor shall furnish all personnel needed for the test and the government will furnish electric power.

TP-2-08 - GUARANTY: The following equipment to be furnished by the contractor under this section of the specifications shall be guaranteed for a period of one year from date of acceptance thereof, rather for beneficial use or final acceptance, which ever is earlier, against defective material design and workmanship:

- |                        |                         |
|------------------------|-------------------------|
| (1) Linefinder         | (6) Signaling equipment |
| (2) Selector switches  | (7) Trunking equipment  |
| (3) Relay groups       | (8) Testing equipment   |
| (4) Connector switches | (9) Cables              |
| (5) Power equipment    |                         |

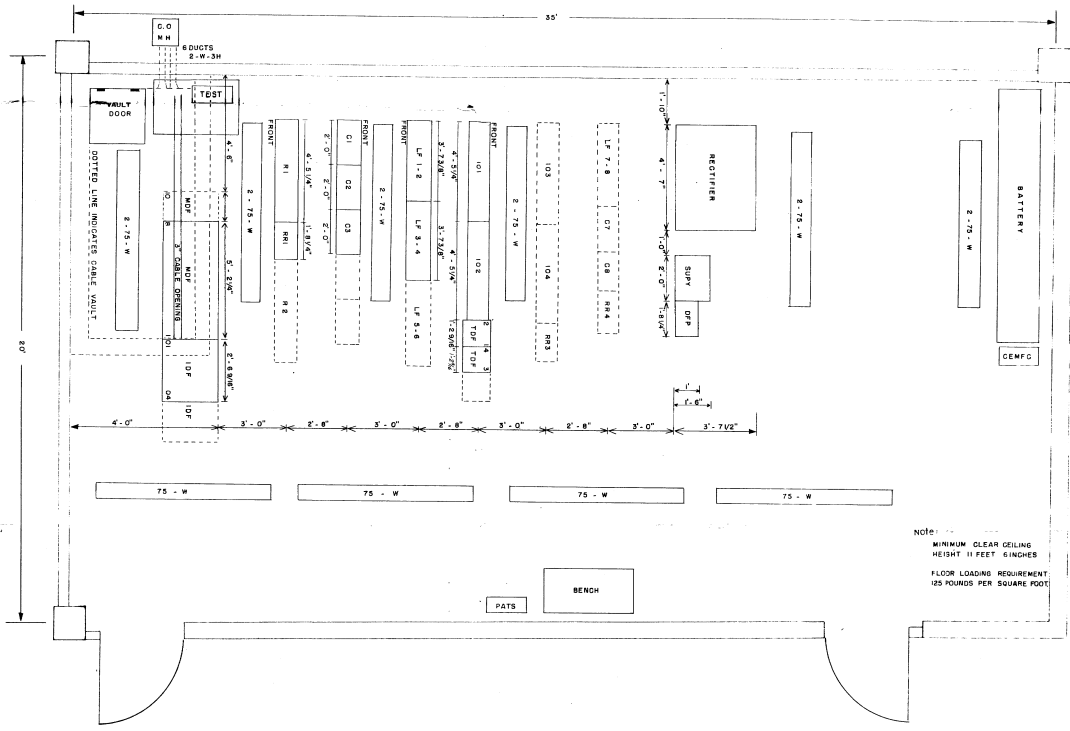
Upon receipt of notice from the Government of failures of any part of the guaranteed equipment during the guaranty period, the effected part or parts shall be replaced promptly with new parts by and at the expense of the contractor.



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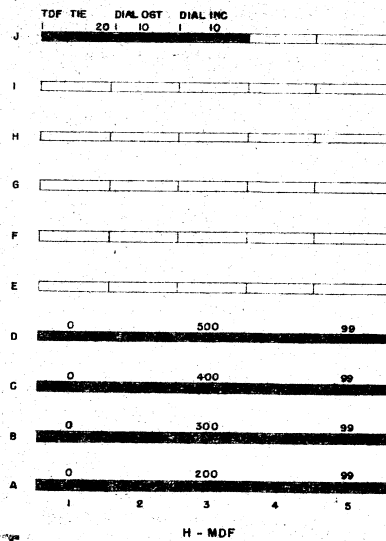
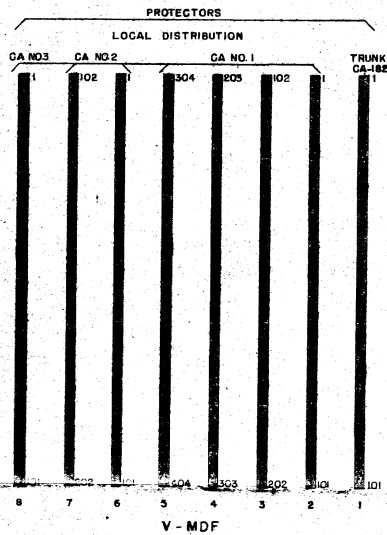
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NOTE:  
 MINIMUM CLEAR CEILING  
 HEIGHT 11 FEET 6 INCHES  
 FLOOR LOADING REQUIREMENT  
 125 POUNDS PER SQUARE FOOT

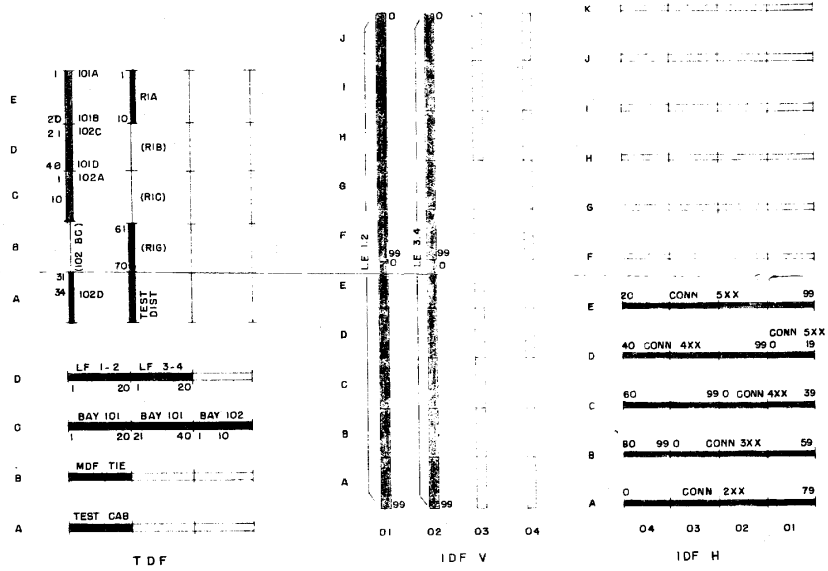
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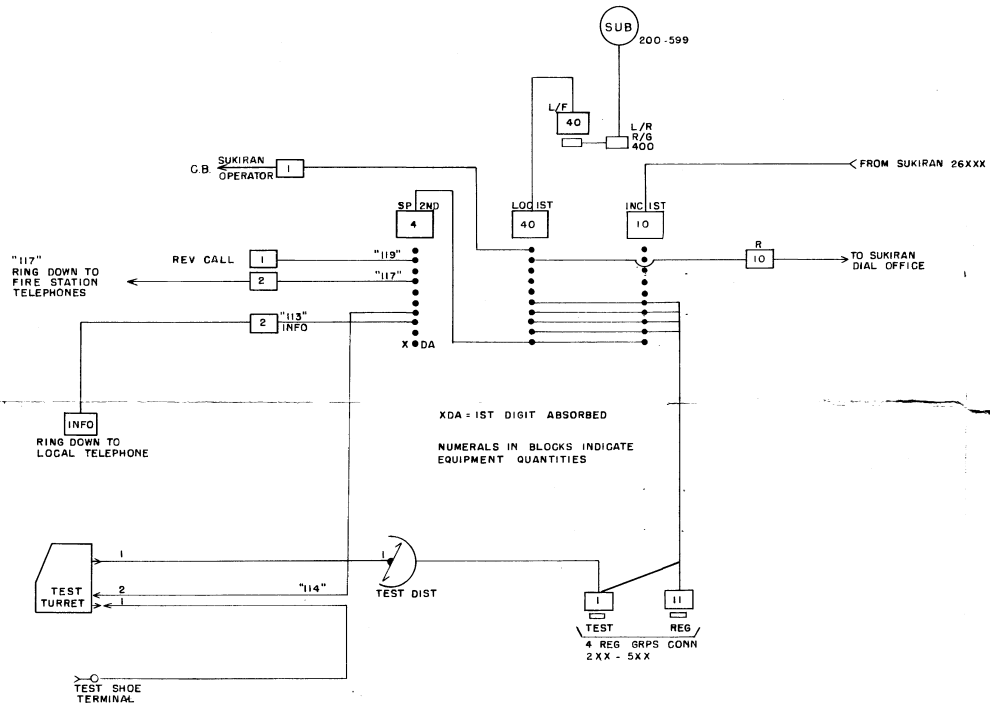
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