

JOINT USE

COMMUNITY TELEVISION ANTENNA SYSTEMS

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1. GENERAL

1.01 This section covers the principal considerations involved in the use of space on jointly owned and Telephone Company solely-owned poles by Community Television Antenna Companies for the attachment of television signal distribution cables and associated equipment. The principal components of the television distribution system that have been encountered to date are outlined herein. Construction details of the systems are covered in a general manner to aid in the engineering of specific cases and also to assist the field forces in recognizing these systems when they are encountered in the field.

1.02 The purpose of the community television antenna systems is to make possible television reception in locations where signals from television broadcast stations are of poor quality or cannot be received at all. There are at present several types of systems which are in general modifications of arrangements used in apartment houses and hotels to distribute television signals from a master antenna on the roof to apartments or rooms within the building.

1.03 The antenna of the television signal distribution system is usually located on a hilltop where television reception is satisfactory. Amplifiers are usually provided at the master antenna location and signals are distributed at television broadcast frequencies to individual receivers by means of coaxial cable or

other suitable conductors with amplifiers along the line, as required. Individual television receivers are generally served by special drops between the transmission line and the receiver owner's premises.

1.04 At the present time, consideration will be given to use of space on poles for television systems on the following basis.

(a) Requests for attachment privileges received by this company will be given consideration on a contact rental basis. Such requests shall be referred to the Plant Engineer for consideration.

(b) A license agreement will be negotiated between the owners of the television system and the Telephone Company where such company desires to attach to poles owned wholly or in part by the Telephone Company. Where an attachment is required on a pole in which the Telephone Company has no interest, it shall be the responsibility of the television company to negotiate a separate agreement with the other pole-owning company.

(c) The Telephone Company's engineers will specify the location for the television cable and equipment, etc., in accordance with the license agreement.

(d) The television company will place or arrange to have placed the television cable and equipment on the poles in accordance with the instructions received from the Plant Engineer and the terms of the license agreement.

(e) The power wiring on poles including the vertical risers, shall be performed by the power company involved or as may be directed by them.

(f) All maintenance of the television system shall be performed in accordance with the license agreement.

2. DESCRIPTION OF T-V DISTRIBUTION PLANT

2.01 The television distribution plant generally used at the present time consists of the following principal items.

(a) Transmission Cable: This cable generally consists of RG11/U high frequency coaxial cable with a plastic jacket having a 7/16-inch outer diameter and weighing approximately .16 pound per foot. This cable requires a strand for its support.

(b) Distribution Drops: These drops generally consist of RG59/U high frequency coaxial cable with a plastic jacket, an outer diameter of 1/4-inch and weighing approximately .10 pound per foot. This cable requires a supporting strand between the pole line and building.

(c) Pole Mounted Line Amplifiers: The dimensions of these amplifiers depend on the system used. The largest housing encountered to the present time measures 41 inches by 23 inches by 12 inches. Spacing between amplifiers varies from approximately 800 feet to 3200 feet depending upon the system employed. A source of commercial power is required at each amplifier location.

(d) Pole Mounted Bridging Amplifiers: The largest unit encountered to date measures 20 inches by 14 inches by 8 inches. A commercial power source is required.

Note: Resistance-type bridging equipment, pole or strand mounted, requiring no power source, may sometimes be used.

3. CONSTRUCTION PRACTICES

3.01 General

(a) Construction of community T-V antenna systems on jointly used or wholly owned pole lines shall conform to the laws of the State of California, Orders of the Public Utilities Commission of said State, rules and regulations of other legally authorized bodies having jurisdiction, the requirements of the Telephone Company and of the Power Company in so far as the foregoing may be applicable.

(b) Television signal distribution systems are considered the same as communication circuits. Therefore, their installation will be in the Telephone Company space on poles. Their construction and maintenance requirements will be the same as for communication cables, etc., except that the separation between telephone drop wire and television cables in pole-to-building spans should be 24 inches if practicable; but not less than 12 inches.

Note: For the information of the Telephone Company's employees the requirements of the Public Utilities Commission's G. O. 95 and the American Railroad Association's Specification 1-B-1 are covered by standard Bell System Practices.

- (c) Generally, television cable attachments to poles will be below telephone open wire and above telephone cable depending on local conditions. Where Telephone Company cable arms are present and space is available, the T-V cable may be placed on the cable arm with the approval of the Telephone Company.
- (d) The building end of each strand supporting a television cable shall be insulated from the structure by a suitable insulator.
- (e) The separation between T-V cables and telephone cable or drop wire on the outside or inside of a building shall be at least 4 inches unless protected with porcelain tubes.
- (f) Telephone Company conduit structures shall not be used for housing Community Television Antenna Company's cable in view of the hazard to telephone service created by foreign workmen working in manholes and the introduction of power circuits to serve television amplifiers in manholes.

3.02 Guying

Guying shall be adequate to support the resultant load of the television attachments. Where the Telephone Company practices indicate one guy is adequate to hold the combined load of the television and telephone attachments, a single guy should be provided rather than separate guying.

3.03 Protection Requirements

(a) Grounding and Bonding

- (1) General - The outer conductor of T-V cables and its supporting strand, shall at all times be electrically continuous throughout the system. The T-V drop wire support strand shall be bonded to the T-V line cable support strand.

(2) At T-V Community Antenna Mast

The outer conductor of the T-V cable shall be electrically connected to the booster amplifier chassis which in turn shall be effectively grounded. An effective ground would be a water pipe system or if not available, a suitable counterpoise (buried wire, driven rods).

(3) At Poles Which Support Telephone Company Cable

T-V cable strand shall be bonded to Telephone Company strand at the first and the last poles supporting both telephone cable and T-V cable and at every tenth pole between except that, if the remaining section contains 13 poles or less, the ground at the tenth pole may be omitted.

In sections where the T-V cable is located on the same thoroughfare with trolley feeders or contact wires, bonding between T-V strand and telephone cable messenger shall be done at the first and last pole and at every fifth pole between, except that, if the remaining section contains eight poles or less, the ground at the fifth pole may be omitted.

Note: Strand bond wires shall be not less than No. 6 solid copper wire and bonding of the T-V strand to the Telephone Company strand shall be done by telephone workmen using a strand ground wire clamp.

(4) At Buildings

The outer conductor of the coaxial cable including service cable shall be grounded, preferably to a water pipe system, as close as practicable to the point of entrance at the building.

(5) Other

All metal amplifier cases shall be bonded to the T-V cable strand.

(b) Fuses

120-volt services shall be provided with over-current-protection by the customer at the T-V line amplifier and distribution amplifier housings.