

Chapter 7
Public Utilities and Transportation

Article 3: Cable Television
(*Editors note: Title added 8-9-1988.*)

Division 1: Cable Television System Operating Rules and Regulations

("Cable Television System Operating Rules and Regulations"
added 7-7-1970 by O-10335 N.S.)

§73.0101 Citation of Ordinance

This division may be cited as the San Diego Cable Television System Operating Rules and Regulations Ordinance.

(Amended 4-6-1981 by O-15480 N.S.)

§73.0102 Rules of Construction

This division shall be construed liberally in order to effectuate its purposes. Unless otherwise specifically prescribed in this division the following provisions shall govern its interpretation and construction:

- (a) When not inconsistent with the context, words used in the present tense include the future, words in the plural number include the singular number, and words in the singular number include the plural number.
- (b) Time is of the essence in this division. No franchise holder or owner shall be relieved of his obligation to comply promptly with any provision of this article by any failure of City to enforce prompt compliance with any of its provisions.
- (c) Any right or power conferred, or duty imposed upon any officer, employee, department or board of City is subject to transfer by operation of law to any other officer, employee, department or board of City.
- (d) No franchise holder or owner shall have any recourse whatsoever against City for any loss, cost, expense or damage arising out of any provision or requirement of this division or the enforcement thereof.

- (e) This division does not relieve any franchise holder or owner of any requirement of the City Charter or of any ordinance, rule, regulation or specification of City.

(*"Rules of Construction" added 7-7-1970 by O-10335 N.S.*)

§73.0103 Purpose and Intent

The purpose and intent of this division is to assure that residents of the City of San Diego who subscribe to the service of a cable television system which has been granted a franchise by the city shall receive television signals without degradation within the limitations imposed by the state of the art. These standards shall apply to all channels carried on a cable system.

(*Amended 4-6-1981 by O-15480 N.S.*)

§73.0104 Definitions

Whenever used in this division the following words or phrases shall mean:

- (a) "City" shall mean The City of San Diego, a municipal corporation in the State of California.
- (b) "Council" shall mean the City Council of City.
- (c) "City Manager" shall mean the City Manager of City as that office is defined in Section 27 of the City Charter and any officer or employee of City appointed by the City Manager to act for him.
- (d) "Cable Television System" shall mean a system of antennas, cables, wires, lines, towers, wave guides, or any other conductors, converters, equipment or facilities, designed and constructed for the purpose of producing, receiving, amplifying and distributing, audio, video and other forms of electronic or electrical signals, located in the City as delineated in each franchisee's ordinance.
- (e) "FCC" shall mean the Federal Communications Commission.
- (f) "Franchise" shall mean the right and authority granted by an ordinance of City to construct, maintain and operate through use of public streets, or other public rights of way or public places in City.
- (g) "Grantee" shall mean the person to whom the franchise is granted by an ordinance of City and any lawful successor or assignee of the original grantee.

- (h) “Local Station” shall mean a television broadcaster maintaining its main studio in City or operating a transmitter in City or within 10 miles of City’s limits.
- (i) “Subscriber” shall mean any person or entity receiving for any purpose the Cable Television System service of grantee.
- (j) Technical abbreviations shall have the meanings as described in “The Institute of Electrical and Electronics Engineers, Standard No. 198, Radio–Electronic Terms, abbreviations of.”
- (k) Technical Definitions.
 - (1) “Signal Level, or Visual Carrier Level.” The peak voltage of a radio frequency carrier wave, modulated with FCC standard composite TV signal, measured during the synchronizing interval.
 - (2) “dBmV.” The unit of signal or noise level referred to one millivolt across 75 ohms. (0 dBmV equals 1000 microvolts across 75 ohms.)
 - (3) “Noise Level.” The root–mean–square voltage of noise level due to modulation processes, thermal or other noise providing effects but does not include hum and other undesired signals of discrete frequency. The noise is measured in the 4.0 MHz bandwidth between 1.25 and 5.25 MHz above the lower channel boundary of a cable television channel.
 - (4) “Signal (or carrier) to noise ratio.” The difference in dB between signal level and noise level on the same channel.
 - (5) “Cross–Modulation.” The transfer of modulation from one channel to another.
 - (6) “Hum Modulation Ratio.” The ratio between the peak–to–peak ripple at 60 or 120 Hz on an otherwise unmodulated carrier, to the peak carrier level.
 - (7) “Spurious Signals.” Any discrete frequency occurring within the channel boundaries which is not a desired carrier, subcarrier, or sideband.

(Amended 4-6-1981 by O-15480 N.S.)

§73.0105 General Requirements

- (a) Local Service Office. Each franchisee shall maintain an office within the City of San Diego which shall have a local telephone number listed in the directory of The Pacific Telephone Company, and be operated so that all manner of subscriber inquiries may be handled during regular office hours, and that repair calls may be received at any time. An office shall be open during reasonable business hours and for at least four (4) hours per week of extended operation either on weekday evenings after 5 p.m., or on weekends, to be scheduled at the discretion of the franchisee.
- (b) The grantee shall provide to each subscriber written notice of the procedures for reporting and resolving complaints at the time of the initial subscription to the cable system and at any other time the grantee makes a change in his office location, his telephones or his complaint procedures. Present subscribers shall be so notified within 90 days of the adoption of this ordinance.
- (c) If a subscriber or prospective subscriber is unable to obtain satisfaction from the grantee in the resolution of a problem or in the initiating of service, he may file a written complaint with the City Manager of The City of San Diego, 202 "C" Street, 92101. The letter should include the complainant's name, address and telephone number, the name of the cable television system involved, the nature of the problem and a chronological history of his and the company's actions relative to the complaint. Upon receipt of such a written complaint the City Manager shall take such action as is reasonably necessary to investigate and resolve the circumstances surrounding the complaint.
- (d) Carriage of Local Stations. All local stations carried on a Cable Television System shall have as high a picture quality as any other station carried on the Cable Television System. However, a Cable Television System franchisee shall not be required to upgrade the quality of the off-the-air signal received to comply with this section.
- (e) All programming carried on a cable television system including Los Angeles or any other distant station shall be maintained in a manner that fully complies with the provisions of this ordinance. Any change made by grantee in its programming, except those of an emergency nature beyond grantee's control, which involves channel carriage including, but not necessarily limited to, additions, deletions or changes in channel assignment shall not become effective until grantee has notified its subscribers at least fourteen (14) days in advance. Notification may be made in writing or by notices on the cable system.

- (f) System Maps and Layout. The grantee shall have at all times up-to-date route maps of suitable scale showing all receiving pickup locations and the location of all amplifiers and trunk and distribution lines. Lines to individual outlets need not be shown. The scale of the maps shall be sufficient to clearly show the required details, and in no event less than 1 inch = 400 feet.
 - (g) System Construction Standards. The system shall be installed and maintained in accordance with standard good engineering practices and shall conform when applicable with the National Electrical Safety Code, Bureau of Standards Handbook No. 130, Rules for Overhead Line Construction (General Order No. 95) and Rules for Construction of Underground Communications Systems (General Order No. 128) of the California Public Utilities Commission, the California Administrative Code, Title 24, Part 3, The City of San Diego Municipal Code, and any other governmental agency standards or codes which are adopted in the future which directly or indirectly apply to cable television system construction standards.
 - (h) Grounding. Trunk, distribution, and customer drops shall be properly grounded, but in no case less than the first and every tenth pole plus each power location. Each ground shall consist of a minimum of 8' ground rod connected with No. 8 copper wire or equivalent.
 - (i) Power Supply r.f. Attenuation. Each cable powering point shall be equipped with appropriate lightning protective devices, and shall provide not less than 40 dB r.f. attenuation over the frequency range of 5 to 300 MHz.
 - (j) Shielding. Shielding shall be such as to restrict radiation as prescribed in Section 76.0605(a) (12) of the FCC Rules and Regulations.
- (Amended 1-17-1984 by O-16114 N.S.)*

§73.0106 Test Data Required

- (a) Head-End. Upon completion of construction or major modification or within sixty days from the date of adoption of this article, the following performance data shall be collected at the head-end using appropriate test signals consistent with the state of the art inserted at the antenna input terminals, and measured at the interface between the single channel equipment output and the channel combining networks. Tower mounted transmission lines, filters, preamplifiers and UHF/VHF converters are excluded from the following tests. However, where possible, transmitted vertical interval test signals should be observed to indicate whether excluded tower equipment substantially meets performance standards.

- (1) Video carrier to noise.
 - (2) Multiburst frequency response.
 - (3) Differential phase.
 - (4) Differential gain.
 - (5) Magnitude and frequency of spurious signals.
- (b) A copy of the annual measurements and report required by the FCC shall be provided to the City.
- (c) Trunk Monitor Check Points. The franchisee shall designate trunk monitor points strategically located in the distribution plant. The total number of trunk route miles divided by the number of designated monitor check points shall not exceed 20. Such monitor check points shall be subject to approval by the City Manager.
- The following data shall be collected and recorded at each trunk monitor check point no fewer than once per month:
- (1) Visual and aural carrier levels on all channels.
 - (2) Video carrier to noise ratio on all channels (measured without interrupting service).
 - (3) Visual inspection of pictures on all channels for visible distortion produced within the cable system.
- (d) Repetition of Tests. If the City Manager deems it necessary to assure distribution of TV signals without material degradation, he may from time to time request a franchise grantee to repeat part or all of the performance tests specified above, as appropriate.
- (e) Retention of Test Data. All performance test results, as well as complaint reports hereinafter specified shall be kept on file by the franchisee for a period of at least twelve months. All such files shall be open for inspection at reasonable times by City Manager.

(Amended 4-6-1981 by O-15480 N.S.)

§73.0107 Performance Standards

- (a) The visual signal level across a terminating impedance which correctly matches the internal impedance of the cable system as viewed from the subscriber terminals shall be not less than the following appropriate values:

Internal Impedance	Visual Signal Level
75 ohms	1 millivolt
300 ohms	2 millivolts

(At other impedance values, the minimum visual signal level shall be the square root of $0.0133 z$ millivolts, where Z is the appropriate impedance value.)

- (b) The visual signal level on each channel shall not vary more than 12 dB within any 24 hour period and shall be maintained within:
- (1) 3 dB of the visual signal level within 6 MHZ nominal frequency separation, and;
 - (2) 9 dB of the visual signal level on any other channel, and;
 - (3) A maximum level such that signal degradation due to overload in the subscriber's receiver does not occur.
- (c) The peak voltage of the aural signal on Class I standard broadcast signals shall be maintained between 13 and 17 dB below the associated visual level. On pay service channels with scrambling devices the aural signal may be 10 dB below the visual signal level.
- (d) The ratio of visual signal level to system noise shall be not less than 36 dB.
- (e) Cross modulation ratio on any channel shall not exceed -50 dB. There shall be no visible cross-modulation products produced on any channel carried by the Cable Television System.
- (f) Multiburst frequency response of single channel equipment for head-end shall conform with the following:

White Level	OdB Reference
0.5 MHz	+0, 2dB
1.5 MHz	+0, 2dB
3.0 MHz	+0, 2dB

3.2 MHz	+0, 2dB
3.58 MHz	+0, 2dB
4.1 MHz	+0, 2dB
4.18 MHz	+0, 6dB*
4.2 MHz	No Specifications

***Not more than 4dB below the level of the 3.58 MHz burst.**

- (g) Because there is no FCC tolerance on transfer linearity, single channel equipment should be adjusted for the best practicable performance. In no case, however, shall system differential phase exceed 5 degrees, nor shall differential gain exceed 2 dB.
- (h) Spurious frequencies in any channel shall be attenuated at least 46 dB below visual carrier level as defined in Section 73.0104, paragraph (k), unless it can be shown that a particular spurious frequency at higher level is not perceptible on a commercial TV set.
- (i) Incidental radiation shall conform with FCC specifications, Section 76.605 (a) (12).
- (j) The peak to peak variation in visual signal level caused by undesired low frequency disturbance (hum or repetitive transients) generated within the system, or by inadequate low frequency response shall not exceed -3% of the visual signal level.
- (k) The channel frequency response shall be within the range of + or -2 decibels for all frequencies within -1 MHZ and +4 MHZ of the visual carrier frequency.
- (l) Direct pick-up causing leading ghosts or blanking bars or co-channel interference, shall not be visible on a thoroughly shielded test receiver connected to any service drop. Ghosts, unwanted signals, ringing, or reflections of any sort shall be either eliminated or minimized, subject to the limitations imposed by the technical state of the art. The design, construction, and operation of the entire Cable Television System from antenna to service drops and baluns shall be such as to minimize all such reflections and stray pickup.

- (m) Cable Television systems shall conform to all applicable FCC Rules and Regulations. Should the FCC at some future date relinquish regulation of cable television systems, the City shall retain the same FCC technical standards and regulations under this ordinance as applicable.

(Amended 4-6-1981 by O-15480 N.S.)

§73.0108 Measurement Methods

- (a) Signal level measurements shall be made with a properly adjusted and calibrated selective r.f. voltmeter or signal level meter or spectrum analyzer.
- (b) System noise may be measured using a frequency-selective voltmeter (field strength meter) which has been suitably calibrated to indicate rms noise or average power level, and which has a known bandwidth. An oscilloscope should be connected to the video output of the field strength meter to insure that any peaks that may be noted are not caused by a spurious frequency or cross modulation interference problem. With the system operating at normal levels and with a properly matched resistive termination substituted for the antenna, noise power indications at the subscriber terminal are taken in successive increments of frequency equal to the bandwidth of the frequency-selective voltmeter, summing the power indications to obtain the total noise power present over a 4.0 MHz band centered within the cable television channel. If it is established that the noise level is constant within this bandwidth, a single measurement may be taken which is corrected by an appropriate factor representing the ratio of 4.0 MHz to the noise bandwidth of the frequency selective voltmeter. If an amplifier is inserted between the frequency-selective voltmeter and the subscriber terminal in order to facilitate this measurement, it should have a bandwidth of at least 4.0 MHz and appropriate corrections must be made to account for its gain and noise figures. Alternatively, measurements made in accordance with the NCTA standard on noise measurement (NCTA Standard 005-0669) may be employed.
- (c) When deemed necessary by the City Manager, cross modulation shall be measured as follows:

Method 1. A block diagram of the setup for this test is on file in the office of the City Clerk as Document No. 732488. Normal picture and sound input signals (including FM signals where carried) are supplied to each channel to be carried except the channel under observation; a CW signal is supplied to the viewing channel at white level. No cross-modulation products

(“wind-shield-wiper” effects) should be visible on a monitor receiver located at an appropriate test drop, at an ambient temperature of 32 degrees Fahrenheit or above.

- (d) Spurious signals may be detected and identified with a spectrum analyzer or other suitable instruments.

(Amended 4-6-1981 by O-15480 N.S.)

§73.0109 Complaint Procedures

- (a) The grantee shall keep a record of all complaints from subscribers. The record shall identify the subscriber and his address, the location and date of the complaint, and a technician’s report on the disposition of the complaint including the following items, as applicable.
- (1) Carrier levels at the service drop terminal.
 - (2) Carrier levels and carrier to noise ratio at the customer’s receiving outlet. (Note: since interruption of service to other customers must be avoided, it is recognized these noise measurements may not be entirely accurate.)
 - (3) If the complaint is caused by defects in customer’s TV set, including inadequate shielding or grounding, explain.
 - (4) If the complaint involves direct pick-up, describe tests to determine whether there is leakage into the cable system. A code reference to the test procedure used is acceptable if the procedure instruction is on file in the cable television office records and the City Communications and Electrical Division’s records.
 - (5) Make and model and effectiveness of the antenna switch installed, if any.
 - (6) If the complaint involves visible crosshatch or herringbone interference, describe fully, including probable causes and corrective steps. (Note: such interference also may be present on signals received directly without cable.)
 - (7) Visual check for cross-modulation (without interrupting service to customers.)

- (8) Check for problems originating at the head-end.
 - (9) Other relevant remarks, including corrective action taken.
- (b) Upon request of the City Manager, grantee shall, within ten (10) days after receiving such request, send a written report to Manager with respect to any complaint. Such report shall provide a full explanation of the investigation, findings, and corrective steps taken. When the complaint concerns technical performance, such report shall include the items in subsection (a) of Section 73.0109, as applicable.
- (c) The grantee shall acknowledge complainants' requests for repair or adjustments promptly, but in no event longer than 16 hours after notice.
- (d) The grantee shall commence all repairs and adjustments within 72 hours after notice and complete all repairs or adjustments promptly, but in no event longer than 7 days after notice, except for unavoidable delays, without fault and beyond control of the grantee (financial inability excepted).
- (e) The grantee shall limit failure to a minimum by locating and correcting malfunctions promptly, but in no event longer than 24 hours after notice, except for unavoidable delays, without fault and beyond control of the grantee (financial inability excepted).

(Amended 1-17-1984 by O-16114 N.S.)

§73.0110 Data Forms and Reports

- (a) Cable Television Systems franchise holder shall provide the City Communications and Electrical Division with copies of the following documents:
- (1) Data taken in accordance with the monthly Cable Television Performance Report.
 - (2) "Annual Report of Cable Television Systems" (FCC Form 325) shall be submitted after filing same in accordance with FCC Rules and Regulations, Part 76, Subpart 1, Paragraph 76.403.
 - (3) Any other reports submitted to other regulatory agencies related to the performance of the Cable Television System.

("Data Forms and Reports" added 4-6-1981 by O-15480 N.S.)

§73.0111 Constitutionality

If any section, subsection, sentence, clause or phrase of this article is for any reason held to be invalid, such decision shall not affect the validity of the remaining portions of this article. The Council hereby declares that it would have adopted the article and each section, subsection, sentence, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid.

(Renumbered from Section 73.0110 on 4-6-1981 by O-15480 N.S.)