

INTERCONNECTION SERVICES

Item
200 TERMINAL ATTACHMENT PROGRAM

A. GENERAL

1. The Terminal Attachment Program (TAP) applies to network addressing and network non-addressing terminal equipment, and Network Protection Devices (NPD's) which have been certified by Industry Canada (IC) formerly Industry Canada - Communications. Equipment that meets the specifications of the Terminal Attachment Program may be electrically, acoustically or inductively connected to the Company's facilities under the terms of this Program.
2. To be eligible for connection under this Program, all terminal equipment must be certified by IC and bear a label provided by IC indicating compliance with Compliance Specification 03 (CS-03) as well as Certification Procedure 01 (CP01) and related documents issued by IC, or for new telecommunications equipment after 2002 01 19, certified as described in CS-03 and Procedure for Declaration of Conformity and Registration of Terminal Equipment (DC-01). Terminal Equipment certified to CS-01 and CS-04 may be attached or remained attached without further certification.
3. The purpose of this Program is to provide uniform standards for the protection of the telephone network when the connection of terminal equipment is permitted thereto. The Program is not intended to ensure the user of terminal equipment any measure of performance or safety other than that which may be provided by Canadian Standards Association (CSA) approval.
4. IC's certification specifications for electrically connected terminal equipment are based on the concept of standard arrangements whereby the terminal connecting plug is connected directly to the appropriate voice or data network-interface jack provided by the Company. Equipment so connected normally operates in a bridged or parallel mode.

Although individual units of terminal equipment may comply with the certification requirements, this may not prevent degradation of telephone service when connected in a nonstandard manner by the customer, for example through a jack-plug-cord ensemble and/or other types of customer-provided connecting arrangements or when connected in interpositioned equipment arrangements as specified in D.3. following.

5. Subject to due notice as provided for in IC, Terminal Attachment Program, Procedures for Network Change Notices and Disclosures of New Terminal-to-Network Interface (NCN-01) (formerly part of CP-01), and the Company's Terminal Attachment Program, Technical Standards, the Company reserves the right to change, in whole or in part, the design, function, operation or layout of the Company network, as is considered necessary by the Company.

B. DEFINITIONS

Terminal equipment is equipment that forms the end point of a telecommunications channel, or other such facility, where information is received or originated and/or equipment located at a point at which information can enter or leave a telecommunications network and/or an input/output device designed to receive or send source data. Such terminal equipment may be capable of manually or automatically generating network-addressing signals which permit origination of outgoing calls.

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B. DEFINITIONS (Continued)

Host terminal equipment - Any equipment which is capable of operating by itself through direct tip/ring connections to the network and is eligible for certification, and provides for the through connection of either ancillary or auxiliary equipment or both.

Ancillary terminal equipment - Equipment which is not capable of operating by itself through direct tip/ring connections to the network and is not eligible for certification as terminal equipment. Such equipment is only authorized for indirect network connection if it has been included as a component or function of a telephone terminal equipment or auxiliary terminal equipment package submitted for certification. Typical examples: head telephone sets, handsets and station equipment connected behind multiline terminals.

Auxiliary terminal equipment - Any equipment which is capable of operating by itself through direct tip/ring connections to the network and is eligible for certification. Typical examples: handsfree "speakerphones", automatic dialers, automatic answering/recording equipment.

Network protection devices (NPD's) - For the purpose of this item, network protection devices are categorized as follows:

NPD-1 is intended for connection in front of RCC radio system equipment as well as analogue voiceband data circuit-terminal equipment. Both of these applications involve input signals that are limited within the voiceband below 4 kHz.

NPD-2 is intended for all other applications such as with multiline equipment where wideband analogue input signals may be present (music on hold, wired music etc.). The NPD-2 is therefore required to provide band limiting to restrict the output frequency to the network to 4 kHz maximum.

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RESERVED FOR FUTURE USE

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C. NONPERMISSIBLE NETWORK INTERFACE FUNCTIONS

Connection of terminal equipment which performs any of the following specific functions is not permitted.

1. Billing Violation

Transmits and/or receives data signals when the off-hook time interval lasts less than 2 seconds.

2. Automatic Call Initiation

Automatically changes from an on-hook mode to an off-hook mode, except in response to an incoming call or to initiate an outgoing call.

Exception

An intermittent dial tone detection device may be attached to the Company's facilities subject to the conditions that the device:

- (a) Performs no periodic testing for intermittent dial tone.
- (b) Makes an off-hook intermittent dial tone check no more than once after a customer completes a call, and completes the check no earlier than 4 seconds and no later than 30 seconds after the customer hangs up.
- (c) Makes an off-hook intermittent dial tone check after an unanswered call no more than once and does so within 4 minutes after the call.
- (d) Performs no off-hook intermittent dial tone checks after an unanswered incoming call if the visual message indicator is already lit.
- (e) Takes line off-hook for no more than 2.1 seconds per intermittent dial tone check.
- (f) Synchronizes off-hook checks when multiple intermittent dial tone detection and visual signalling devices are attached to the same line so that only one check is made per calling event for a single line.
- (g) Does not block dial tone to a customer attempting to initiate a call as an off-hook intermittent dial tone detection check is occurring.
- (h) Does not use more than 8 micro-amps of direct current (DC) from customer line loop, except that the device may draw loop DC sufficient to make authorized off-hook checks.

D. CONDITIONS

The following miscellaneous terms and conditions are applicable to the connection of customer-provided terminal equipment under this Program:

1. Except for jack-plug-cord ensembles (telephone extension cords) and various plug adapter units, this equipment may not be connected to public or semi-public coin telephone service and Datapac service. Customer-provided terminal equipment may be connected to Unitel's Broadband exchange service, provided however that such terminal equipment shall not be capable of bridging the service to the Company's exchange or message toll service.

See Page 41 for explanation of symbols.

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D. CONDITIONS (Continued)

2. As a further exception, customer-provided medical emergency alarm signalling devices may be connected to party line services, subject to the following conditions:

(a) This exception will be permitted only where the Company's facilities are not available to provide individual line service to the customer. If individual line service is subsequently offered by the Company, the customer must either subscribe to individual line service or disconnect the device.

(b) The medical emergency alarm signalling device must be certified to comply with ICIS Certification Specification CS-03 and be connected in accordance with the provisions of this Item 200.

(c) The device must be used only in conjunction with a medical emergency support program.

(d) The device must be programmed to dial telephone numbers within the customer's local calling area only.

(e) If the operation of the medical emergency alarm signalling device unduly interferes with another customer's telephone service, the Company may require that the device be detached immediately.

(f) Customers attaching such a device will be responsible for the installation and maintenance of such equipment. In the event the Company is required to diagnose troubles which are not in the Company's facilities, diagnostic maintenance charges will apply as specified in Item 170 10.

(g) The connection of the medical emergency alarm signalling device to the Company's facilities will be made via a jack.

(h) The Company will be under no obligation to provide notice of the connection to other customers on the same party line.

(i) The Company's liability is limited in accordance with the Terms of Service. Notwithstanding any provision of the Terms of Service, the Company will not be responsible for the inability of a customer using such a device to place or complete an emergency call due to the concurrent use of the line by, or any other acts or omissions of, another party line customer.

3. Interpositioned equipment arrangements are those which require that Company-provided equipment gain access to the Company's network facilities through customer-provided terminal equipment. Customer-provided equipment may be interpositioned at the customer's premises either between the Company-provided equipment and the network or between items of Company-provided equipment subject to the following:

(a) Customer-provided equipment to be connected in an interpositioned configuration must be IC certified or otherwise legally attachable in accordance with this item (see F. following).

(b) Equipment interfaces intended for connection to the network either directly or through other terminal equipment will be plug-ended. Other equipment interfaces and network facilities will be jack-ended.

(c) The owner of the host terminal equipment shall be responsible for providing the appropriate portion(s) of the connecting arrangements.

(d) The Company makes no representation as to the quality of transmission over an interpositioned configuration nor to the continuing compatibility of the customer-provided equipment with Company-provided services and equipment. Maintenance responsibility for Company-provided equipment so connected is limited to assuring that the Company-provided equipment is functioning properly (see A.4. preceding).

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D. CONDITIONS (Continued)

4. Except for acoustically or inductively connected equipment, this equipment may be arranged for connection to the Company's facilities by means of standard jack and plug-type connecting arrangements which are specified in IC's certification specifications and in the Company's tariffs or, in the case of multi-dwelling units, by means of insulation displacement connectors. Jack and plug connections shall be made in such a manner as to allow for easy and immediate disconnection of the terminal equipment by untrained persons. Standard jacks and plugs shall be so arranged that, if the plug connected thereto is withdrawn, no interference to the operation of equipment at the customer's premises, which remains directly or indirectly connected to the telecommunications network, shall occur by reason of such withdrawal.
5. Customer-provided terminal equipment may not be connected to Company-provided terminal equipment except as specified in D.3. Selector-level access from a Company-provided Private Branch Exchange or from a Company central office is also denied except where such connections may be provided as specified in the Company's tariffs.
6. In the case of a modular terminal equipment package, consisting of a basic terminal component (that which connects to the network point-of-interface or "host terminal equipment") and one or more additional components of non-integrated ancillary equipment, all of the additional components must connect to the basic terminal component, and to each other, through hardwired connections and/or by means of proprietary non-T.A.P. standard, plug and jack-type connecting arrangements. Also, all such modular components which may affect compliance must be certified by IC as an operational system and otherwise comply with the terms and conditions specified in this Item. In the case of such packaged systems, only the host terminal equipment need bear a label provided by IC, or a marking in accordance with DC-01. C

Where host terminal equipment is equipped for the through connection of other terminal equipment or auxiliary terminal equipment (but not ancillary equipment - see paragraph preceding), the basic and additional components may be certified as a package and/or as separate units of terminal equipment subject to the following:

- (a) If the other terminal equipment and/or auxiliary terminal equipment components are certified as a package with the host terminal equipment and if such components are connected to the host terminal equipment through hard-wired connections and/or by means of proprietary non-T.A.P.-standard plug and jack-type connecting arrangements only the host terminal equipment need bear a certification label provided by IC, or a marking in accordance with DC-01. The unlabelled components may not be connected to other types of host terminal equipment unless so certified nor may they be directly connected to the Company's facilities unless so certified and labelled, and equipped with a T.A.P.- standard plug.
- (b) If the other terminal equipment and/or auxiliary terminal equipment components and the host terminal equipment are separately certified and if such components are to be connected to the host terminal equipment through T.A.P.-standard plug and jack-type connecting arrangements, then the host terminal equipment and all components must bear a certification label provided by IC, or a marking in accordance with DC-01.

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| | 6. (Continued) | N |
| | (c) Where T.A.P.-standard plug and jack-type connecting arrangements are utilized to effect connection(s) between the host terminal equipment and other terminal components, customer/user substitution of other certified terminal equipment is permitted. | C |
| | (d) Should certification procedures for ancillary equipment and components (e.g. headsets, key system line cards, etc.) be developed and adopted, such certified equipment may not be connected to Company-provided host terminal equipment unless permission is obtained from the Company prior to such connection. | C |
| | (e) If the T.A.P.-standard plug has been removed from the other certified terminal equipment or certified auxiliary terminal equipment to permit its use as a hardwired component, such plug must be restored prior to reuse of that equipment for direct connection to the network. The standard plug shall only be removed and restored by duly qualified personnel (see D.18. following). | C |
| | 7. Items of certified customer-provided single line terminal equipment may be connected to pressure-contact-type jacks. However, 42A-type connecting blocks, which accommodate such jacks, are not available for new installations or off-premises moves. | C |
| | 8. Provided they are compatible with Company-provided jacks, jack-plug-cord ensembles (telephone extension cords) not exceeding 8 metres in length, plug adapter units, and single-line and multi-pin bridging adapters may be utilized to connect terminal equipment to the Company's facilities. | C |
| | 9. Simultaneous one-way transmission terminal equipment may be connected in accordance with D.4. preceding. | C |
| | 10. Sharing or reselling of customer-provided terminal equipment is permitted subject to the conditions of Item 24. | C |
| | 11. Combinations of certified terminal equipment and other legally attachable terminal equipment (see F. following) are permitted provided that such combinations are attached in accordance with the provisions of the Company's Tariffs. | C |
| | 12. The customer shall notify the Company when certified multiline terminal equipment is to be attached; such notification shall include the manufacturers' name and/or name of certification holder, the model number(s), type(s) of equipment, certification number(s), interface code(s), and connecting arrangement code(s) as specified by the manufacturer. | C |
| | 13. The installation of certified multiline terminal equipment shall comply with the installation requirements as specified in the most recent issue of IC's Certification Specification CS-03 as follows: | C |
| | (a) <u>General Requirements</u> | C |
| | (i) Terminal equipment shall be installed in such a manner that IC's certification requirements will continue to be met when the terminal equipment is installed and connected to the Company's facilities.. | C |

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200 TERMINAL ATTACHMENT PROGRAM (Continued)

D. CONDITIONS (Continued)

13. (Continued)

(a) General Requirements (Continued)

(ii) Prospective users and installers of terminal equipment shall determine, in advance of an installation, the terms and conditions, as outlined in CS-03, and hereunder, under which the installation of the terminal equipment and associated wiring may be connected to the Company's facilities.

(iii) The installer(s) shall attest to the following installation and acceptance tests: (13.(b) and (c) following).

(b) Wiring Installation Attestation:

(i) At least ten working days prior to connecting the installation to the Company's facilities, or completing a significant addition or change to the installation, the installer shall complete Part I of an Installation Attestation Form, which form shall then be posted permanently on the job site. (See IC document TRC. 52 issue 6)

(ii) Upon successful completion of the acceptance tests specified in CS-03 and below, the installer shall complete Part II of the Installation Attestation Form, provided that should the installation, or any portion thereof, fail to meet the acceptance tests, such installation or portion thereof shall be disconnected and remain disconnected from the Company's facilities until such time as the acceptance tests can be met and the Part II Form is completed.

(iii) An addition or change to an installation shall be considered significant when the number of extensions added, replaced or reconfigured exceeds:

- a) 50; and,
- b) 20 percent of the total extensions which were in place prior to such an addition or change.

(c) Acceptance Tests:

(i) All applicable tests described in the Terminal Equipment Installation Wiring section of CS-03 shall be performed at each terminal equipment network interface.

(ii) In order to ensure that all the wiring conforms to requirements, appropriate test calls, as described in the Acceptance Tests subsection of CS-03, must be made, to and from each major location on the customer's premises.

(iii) Major locations shall be defined as:

- (1) Each building on a customer's premises.
- (2) Each floor of each building.
- (3) For buildings whose floor areas are large enough that a floor is served by several telephone equipment rooms, the areas served by each equipment room.

(iv) The Company may, at its discretion, monitor the acceptance testing on site, from its test center, or otherwise.

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D. CONDITIONS (Continued)

14. Routine repairs and maintenance of certified terminal equipment are permitted so long as:
 - (a) The repair operation restores the equipment to the same functional operation it had prior to the failure which resulted in the repair.
 - (b) The components needing replacement are replaced with components comparable to the original parts.
 - (c) The repair or maintenance operation is conducted by duly qualified personnel.
15. In accordance with IC's specifications, all certified terminal equipment shall bear a load number which is identified by the certification holder on the unit of certified equipment and in the instruction or operating manual with the terminal equipment. The load number assigned to each terminal device denotes the percentage of the total load allowed to be connected to a telephone line which is used by the device. The termination on a line may consist of any combination of devices subject only to the requirement that the total of the load numbers of all the devices does not exceed the figure of 100. Load numbers provide the customer with an indicator which warns when no additional equipment should be added to a telephone line to prevent overloading thereon. New equipment certified in accordance with CS-03 and DC-01 shall bear permanent identifying marks in accordance with DC-01.
16. The Company will, at the customer's request, provide information concerning interface parameters, including the number of ringers which may be connected to a particular telephone line, needed to permit customer-provided terminal equipment to operate in a manner compatible with telecommunications services. The Company shall determine the maximum number of ringers allowable on any particular line.
17. Key telephone systems must be configured and installed to meet the definition as given in the glossary of terms of Certification Specification CS-03 of Industry Canada (IC).
18. The minimum qualifications for supervisors or craft employees attesting to the installation of multiline terminal equipment and performing acceptance tests in accordance with the DOC specifications and for the performance of routine repairs and maintenance on such terminal equipment are as follows:
 - (a) At least six (6) months of on-the-job experience in installing and/or maintaining similar terminal equipment and wiring.
 - (b) Training from the manufacturer, or that which the certification holder deems equivalent, for the specific terminal equipment being installed and/or maintained.
 - (c) Familiarity with the Canadian Electrical Code, Part I requirements as issued by the Canadian Standards Association.
 - (d) The supervisor and the craft employee can be the same person.

E. ALTERNATIVES TO THE TERMINAL ATTACHMENT PROGRAM

1. As an alternative to the Terminal Attachment Program, network non-addressing terminal equipment may be electrically connected through Company provided couplers, provided that such equipment is manufactured before the date(s) outlined in F. following.

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E. ALTERNATIVES TO TERMINAL ATTACHMENT PROGRAM (Continued)

2. In addition to A. to E.1. preceding customer-provided terminal equipment may be connected to the Company's facilities using jack and plug equipment (provided as specified in the Company's Tariffs) under the terms of an agreement and pursuant to Telecom Decisions CRTC 80-13, CRTC 81-19, CRTC 81-23 and also CRTC 82-14.
3. Non-certified equipment may be acoustically or inductively coupled to certified terminal equipment provided that it complies with the requirements of Item 170, 14.(c).
4. (a) As an alternative to the certification of terminal equipment, customer-owned network protection devices (NPD's) may be connected between the terminal equipment interface(s) and the network facilities provided that they have been certified by Industry Canada (IC) under the terms and conditions of the Terminal Attachment Program and that they bear an IC label indicating such certification, or certified as described in the IC document CS-03 and DC-01.

Uncertified analogue terminal equipment which is used by Radio Common Carriers to provide conventional radio service, as well as uncertified analogue data circuit-terminating equipment such as modems, may be connected via certified network protection devices type NPD-1 which are intended for use with analogue voice band signals that are below 4 kHz.

- (b) Other uncertified analogue terminal equipment may be connected via certified network protection devices type NPD-2 which limit the frequency of input analogue voice band signals, to the network, to below 4 kHz.
- (c) Uncertified network addressing terminal equipment which is connected via certified network protection devices, type NPD-1 or NPD-2, shall be capable of transmitting network control signals, whether rotary dial pulses or DTMF tones, that will not interfere with normal operation of network equipment. Refer to CS-03 for specific parameter values. Uncertified terminal equipment which is capable of automatic dialing shall not exceed the limitations on repeated calls to a given number as specified in CS-03.
- (d) The signal power delivered by terminal equipment in the band 2450 to 2750 Hz shall be less than the signal power present simultaneously in the 800 to 2450 Hz band.

F. IMPLEMENTATION OF TELECOM DECISION CRTC 82-14

In accordance with Telecom Decision CRTC 82-14 dated 82 11 23, the following terms and conditions shall apply to the connection of terminal equipment under the Terminal Attachment Program and to that which is connected as specified in E.2. preceding:

1. Single line terminal equipment of a type already in service pursuant to the Company's Tariffs, or the standards approved under the interim decisions (see Item 170-A, Interim Requirements), and manufactured prior to 83 06 01 may remain in service or be attached without further attestation or certification unless subsequently modified. In order to be attached by either a carrier or a customer, single line terminal equipment manufactured after 83 06 01 must be of a type certified by IC as meeting the appropriate TAPAC standards and bear an IC label indicating such certification or certified as described in CS-03 and DC-01.

See Page 41 for explanation of symbols.

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INTERCONNECTION SERVICES

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200 TERMINAL ATTACHMENT PROGRAM (Continued)

F. IMPLEMENTATION OF TELECOM DECISION CRTC 82-14 (Continued)

2. Multiline terminal equipment of a type already in service pursuant to the Company's Tariffs, or the standards approved under the interim decisions (see Item 170-A, Interim Requirements), and manufactured prior to 83 09 01 may remain in service or be attached without further attestation or certification unless subsequently modified. In order to be attached by either a carrier or a customer, multiline terminal equipment manufactured after 83 09 01 must be of a type certified by IC as meeting the appropriate TAPAC standards and bear an IC label indicating such certification, or certified in accordance with CS-03 and DC-01. C |

See Page 41 for explanation of symbols.

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