



TicketTaker Service
Network Interface Specifications

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This Technical Reference is published by BellSouth Telecommunications, Inc. and describes the Network Interface (NI) specifications for TicketTakerSM service. This document is intended to provide information relating to customer interoperation with TicketTaker service, and particularly, to furnish Customer Premises Equipment (CPE) manufacturers with information necessary to design equipment for the service.

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TICKETTAKERSM SERVICE NETWORK INTERFACE SPECIFICATIONS

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TICKETTAKERSM SERVICE

NETWORK INTERFACE SPECIFICATIONS

1. GENERAL

This document describes the Network Interface (NI) specifications for TicketTakerSM service. This document is intended to provide information relating to customer interoperation with TicketTaker service, and particularly, to furnish Customer Premises Equipment (CPE) manufacturers with the information necessary to design equipment for the service.

2. SERVICE DESCRIPTION

TicketTaker service provides the cable television (CATV) industry with an order taking capability that can accommodate sudden, high level, pay per view request activity. TicketTaker equipment automatically captures CATV customer (viewer) dialed order information and provides the calling and called number information to the CATV location via a private line data link.

Specific telephone numbers are assigned to the subscribing CATV company. These numbers are advertised by the CATV company, and are used to indicate specific viewer requests. The assigned telephone numbers may provide, but are not limited to, the following viewer requests:

- An indication for channel activation associated with specific events. In these cases, the assigned telephone number(s) can be recycled daily or periodically in order to minimize the quantity of assigned numbers.
- A request to activate a premium channel for a period of time.
- A request to cancel a premium channel.

TicketTaker service is the delivery of the calling and called number information via the data link to the CATV location. BellSouth is not responsible for the successful delivery of the ordered event to the viewer.

This Technical Reference describes the NI associated with TicketTaker service. The NI is located at the CATV company location and involves the data link between the BellSouth network and the CATV company CPE.

3. SESSION PROCEDURES

The CATV company advertises individual telephone numbers, each of which is associated with specific pay per view orders. The viewer initiates the order for a particular television event, activation of a premium channel, or cancellation of a channel by dialing the appropriate telephone number.

The BellSouth network collects the calling and called number information for the call and forwards this information to the CATV company via the data link. The viewer's call is answered by the network, which then provides a pre-recorded announcement message to the caller. This message informs the caller that the order has or has not been successfully received by the network.

The CATV company is responsible the correlation of both the calling number to viewer, and called number to the order type.

4. DATA LINK SPECIFICATIONS

The data link between the network and the CATV company location is typically an analog private line channel. This channel provides nominal 300 – 3000 Hz passband, with impairments limited in accordance with medium speed data communication requirements. Specifications for this channel are found in Bellcore 41004, “Data Communications Using Voiceband Private Line Channels”*. The primary means of connection to the private line is the eight – pin minimodular jack, identified by the Universal Service Order Code (USOC) JM8. Other data jack types are available upon request. Specifications for the JM8 and other suitable jacks are contained in the Committee T1 – Telecommunications Report No. 5, “A Technical Report on Carrier to Customer Installation Interface Connector Wiring Configuration Catalog”*.

The data link utilizes voiceband modems operating at 1200 or 2400 bits per second (bps). For 1200 bps operation, the network and customer modems must conform to the characteristics and protocol of Bell 202T for 4 – wire operation, or Bell 212 for 2 – wire operation. For 2400 bps operation, the network and customer modems must conform to CCITT V.22bis* characteristics and protocol. Only full – duplex, asynchronous transmission is supported. For 2 – wire private line operation, the network modem operates in the forced originate mode, and the customer modem must operate in the forced answer mode.

The asynchronous data byte structure is a ten – bit character comprised of one start bit, eight data bits (ASCII characters; least bit transmitted first), no parity bits, and one stop bit.

As an alternative to analog private line access, in many areas access to the data link is possible using a four – wire digital private line facility. BellSouth’s digital private line service is SynchroNet® service. Network interface specifications for SynchroNet service are contained in BellSouth TR 73545, “SynchroNet® Service Network Interface Specifications”*.

5. DATA LINK PROTOCOL

There are three types of NI protocols available with TicketTaker service, any one of which may be ordered by the customer at the time of service subscription. This section describes the individual protocols. All protocols may not be available in every TicketTaker service area.

* See Section 6 for ordering information regarding this document.

5.1 Type I Data Link Protocol

The TicketTaker service Type I protocol consists of one line of ASCII data for each CATV customer order request (telephone call). The message format of this protocol is:

```
AAAAAAAAAA SPC BBBB LF CR
```

Where

AAAAAAAAAA = The 10–digit calling number (ANI) of the CATV company customer.

SPC = The ASCII Space character [20 Hex].

BBBB = The four–digit field uniquely associated with the CATV company customer’s called number. The specific four–digit combinations are assigned by BellSouth at service subscription and are used to indicate which event (program number) or order is desired by the viewer. These four digits are the last digits of the called telephone number.

LF = The ASCII LF (Line Feed) character [0A Hex].

CR = The ASCII CR (Carriage Return) character [0D Hex].

Type I messages on the data link are unidirectional. No response is expected from the CATV company CPE.

5.2 Type II Data Link Protocol

The TicketTaker service Type II protocol consists of one line of ASCII data for each customer order request. The message format of this protocol is:

```
STX CR LF AAAAAAAAAA SPC BBBB ETX
```

Where:

STX = The ASCII STX (Start of Text) character [02 Hex].

CR = The ASCII CR (Carriage Return) character [0D Hex].

LF = The ASCII LF (Line Feed) character [0A Hex].

AAAAAAAAAA = The 10–digit calling number (ANI) of the CATV company customer.

SPC = The ASCII Space character [20 Hex].

BBBB = The four–digit field uniquely associated with the CATV company customer’s called number.

ETX = The ASCII ETX (End of Text) character [03 Hex].

Type II messages on the data link are unidirectional. No response is expected from the CATV company CPE.

5.3 Type III Data Link Protocol

Unlike the two previously described protocols, the Type III protocol is bidirectional. In the direction from the network to the CATV company CPE, the protocol provides calling number information, called number information and link status verification. In the direction from the CATV company CPE to the network, a positive or negative acknowledgement is expected for each message from the network.

5.3.1 Type III Session Procedures

There are four message types associated with the Type III protocol: (1) Information, (2) Status Request, (3) Acknowledgement and (4) Negative Acknowledgement messages. The formats of these message types are described in Section 5.3.2 below. The Information (D) and Status Request (S) messages are transmitted from the network towards the CATV company CPE. The Acknowledgement (G) and Negative Acknowledgement (B) messages are transmitted from the CPE towards the network.

For each viewer call completed to one of the preassigned TicketTaker Service telephone numbers, an Information message is transmitted on the data link from the network. The network expects to receive either an Acknowledgement or Negative Acknowledgement message within five seconds of the Information message or Status Request message transmittal. If an Acknowledgement message is received, the network will transmit the next Information message or Status Request message. If no other Information messages are available to send within five seconds after an Acknowledgement message is received, the network will transmit a Status Request message. The Status Request message is an indication to the CPE that the data link is functioning and the network is holding no unacknowledged Information messages. Both Information and Status Request messages require acknowledgement from the CPE.

The CPE shall send a Negative Acknowledgement message if an invalid Information message is received from the network. Examples of invalid messages are: (1) Incorrect Information frame size, (2) Invalid message type or (3) Invalid data in the Information message received. Upon receipt of a valid Negative Acknowledgement message, the network will resend the last message sent.

If the network does not receive an Acknowledgement or Negative Acknowledgement message response to an Information or Status Request message within five seconds, the network will resend the message. The network can store a limited number of messages to accommodate short term loads and outages. When that limit is reached, the CATV company customer (caller) is requested by a recorded voice message to try the call again. To minimize the adverse impact during high load periods, the CPE must respond with either an Acknowledgement or Negative Acknowledgement message as soon as it receives any Information or Status Request message.

5.3.2 Type III Message Types

This section describes the four Type III protocol message types.

(a) Information Message

The Information message is sent from the network towards the CPE. The format of this message is:

D AAAAAAAAAA SP BBBB CR

Where:

D = ASCII D character [44 Hex].

AAAAAAAAAA = The 10–digit calling number (ANI) of the CATV company customer.

SP = ASCII Space character [20 Hex].

BBBB = The four–digit field uniquely associated with the CATV company customer’s called number.

CR = ASCII CR (Carriage Return) character [0D Hex].

(b) Status Request Message

The Status Request message is sent from the network towards the CPE. The format of this message is:

S CR

Where:

S = ASCII S character [53 Hex].

CR = ASCII CR (Carriage Return) character [0D Hex].

(c) Acknowledgement Message

The Acknowledgement message is sent from the CPE towards the network. The format of this message is:

G CR

Where:

G = ASCII G character [47 Hex].

CR = ASCII CR (Carriage Return) character [0D Hex].

(d) **Negative Acknowledgement Message**

The Negative Acknowledgement message is sent from the CPE towards the network. The format of this message is:

B CR

Where:

B = ASCII B character [42 Hex].

CR = ASCII CR (Carriage Return) character [0D Hex].

6. REFERENCES

The following documents are referenced in this Technical Reference:

- (1) Bellcore PUB 41004, "Data Communications Using Voiceband Private Line Channels"¹.
- (2) Committee T1 – Telecommunications Report No. 5, "A Technical Report on Carrier to Customer Installation Interface Connector Wiring Configuration Catalog"².
- (3) CCITT Recommendation V.22bis, "2400 Bits Per Second Duplex Modem Using The Frequency Division Technique Standardized For Use On The General Switched Telephone Network And On Point-to-point 2-wire Leased Telephone-type Circuits"³.
- (4) BellSouth TR 73545, "SynchroNet® Service Network Interface Specifications"⁴.

FOOTNOTES

1. This document can be ordered through Bell Communications Research (Bellcore), Customer Service, 60 New England Avenue, Piscataway, NJ, 08854-4196. Telephone orders can be placed by calling 1-908-699-5800.
2. This document can be ordered from the Exchange Carriers Standards Association, 5430 Grosvenor Lane, Bethesda, MD 20814.
3. This document can be ordered from the International Telecommunication Union, General Secretariat, Sales Service, Place des Nation, CH-1211, Geneva 20, Switzerland.

4. This document is available through BellSouth Telecommunications, Inc., Documentation Operations, North N5A1, 3535 Colonnade Parkway, Birmingham, AL 35243.