

# ***UNIVERGE SV8300***

---

## **Features and Specifications Manual (ISDN/Q-SIG)**

## **LIABILITY DISCLAIMER**

NEC Infrontia Corporation reserves the right to change the specifications, functions, or features, at any time, without notice.

NEC Infrontia Corporation has prepared this document for use by its employees and customers. The information contained herein is the property of NEC Infrontia Corporation and shall not be reproduced without prior written approval from NEC Infrontia Corporation.

All brand names and product names on this document are trademarks or registered trademarks of their respective companies.

Copyright 2008

**NEC Infrontia Corporation**

## **REMARKS**

This manual includes description related to Attendant Console features. However, it is NOT available for 8300 R1 software.

# Table of Contents

---

---

|   | Page |
|---|------|
| 2000 IPS to SV8300 Feature Comparison List .....  | .ii  |
| Business Feature List .....   | iv   |
| Supported Network Services<br>(Trunk pre-provisioned only) .....  | v    |
| Bearer Capability .....   | vi   |
| Addressing .....  | 1    |
| Advice of Charge - Display .....  | 2    |
| Alternate Routing for ISDN .....  | 5    |
| Call-By-Call Service Selection .....  | 6    |
| Called Party Recognition Service<br>(Direct-In Termination (DIT)) .....   | 7    |
| Channel Negotiation .....   | 8    |
| CLI Transparency .....  | 9    |
| Connected Line Identification Presentation (COLP) /<br>Connected Line Identification Restriction (COLR) .....   | 11   |
| CPN To Network - Present .....  | 13   |
| CPN To Terminating User - Display .....   | 15   |
| DID Addressing .....  | 17   |
| DID and DOD Addressing .....  | 18   |
| Incomplete Number Handling .....  | 19   |
| ISDN Terminal .....   | 20   |
| Malicious Call Trace .....  | 23   |
| MEGACOM <sup>®</sup> Access/WATS .....  | 25   |
| MEGACOM <sup>®</sup> 800 Service/800 WATS Ultra WATS .....  | 26   |
| MULTIQUEST <sup>®</sup> /900 Service .....  | 27   |
| Overlap Receiving .....   | 28   |
| Overlap Sending .....   | 30   |
| Subaddress - Present .....  | 32   |
| Trunk Provisioning Service Selection .....  | 33   |
| Calling/Connected Line ID Presentation (CLIP/COLP)/<br>Calling/Connected Name ID Presentation (CNIP/CONP) ..... | 34   |
| CCIS Tandem Call-Calling Party Number (CPN) Delivery to ISDN & Q-SIG Networks .....                             | 36   |
| Overlap Receiving - Q-SIG .....   | 37   |
| Overlap Sending - Q-SIG .....   | 39   |
| Q-SIG Circuit Switched Basic Call - ETSI Version .....  | 41   |
| Feature Availability Chart .....  | 45   |

# 2000 IPS to SV8300 Feature Comparison List

| 2000 IPS ISDN Features   |   | SV8300 ISDN Features   |
|--|---|--|
| US/EU Features Name  | Asia/Aust Features Name   | Global Feature Name  |
| Addressing   | -   | Addressing   |
| Advice of Charge - Display   | Advice of Charge - Display                                      | Advice of Charge - Display   |
| Call-By-Call Service Selection   | -   | Call-By-Call Service Selection   |
| Called Party Recognition Service (Direct-In Termination (DIT))                                       | Calling Party Recognition Service (Direct-In termination (DIT)) | Called Party Recognition Service (Direct-In Termination (DIT))                                       |
| Channel Negotiation  | -   | Channel Negotiation  |
| CLI Transparency   | -   | CLI Transparency   |
| Connected Line Identification Presentation (COLP) / Connected Line Identification Restriction (COLR) | -   | Connected Line Identification Presentation (COLP) / Connected Line Identification Restriction (COLR) |
| CPN To Network - Present   | SID to Network - Present  | CPN To Network - Present   |
| CPN To Terminating User - Display  | SID to Terminating User - Display                               | CPN To Terminating User - Display  |
| DID Addressing   | DID Addressing  | DID Addressing   |
| DID and DOD Addressing   | DID and DOD Addressing  | DID and DOD Addressing   |
| Incomplete Number Handling   | -   | Incomplete Number Handling   |
| ISDN Terminal  | ISDN Terminal   | ISDN Terminal  |
| MEGACOM <sup>®</sup> Access/WATS   | -   | MEGACOM <sup>®</sup> Access/WATS   |
| MEGACOM <sup>®</sup> 800 Service/800 WATS/ Ultra WATS  | -   | MEGACOM <sup>®</sup> 800 Service/800 WATS/ Ultra WATS  |
| MULTIQUEST <sup>®</sup> /900 Service   | -   | MULTIQUEST <sup>®</sup> /900 Service   |
| Overlap Receiving  | -   | Overlap Receiving  |
| Overlap Sending  | Overlap Sending   | Overlap Sending  |
| Subaddress - Present   | Subaddress - Present  | Subaddress - Present   |
| Trunk Provisioning Service Selection   | -   | Trunk Provisioning Service Selection   |

# 2000 IPS to SV8300 Feature Comparison List

| 2000 IPS ISDN Features  |   | SV8300 Q-SIG Features   |
|---|---|---|
| US/EU Features Name   | Asia/Aust Features Name   | Global Feature Name   |
| Calling/Connected Line ID Presentation (CLIP/COLP)/<br>Calling/Connected Name ID Presentation (CNIP/CONP) | Calling/Connected Line ID Presentation (Clip/Colp)/<br>Calling/Connected Name ID Presentation (CNIP/CONP) | Calling/Connected Line ID Presentation (CLIP/COLP)/<br>Calling/Connected Name ID Presentation (CNIP/CONP) |
| CCIS Tandem Call-Calling Party Number (CPN) Delivery to ISDN & Q-SIG Networks                             | CCIS Tandem Call-Calling Party Number (CPN) Delivery to ISDN & Q-SIG Network                              | CCIS Tandem Call-Calling Party Number (CPN) Delivery to ISDN & Q-SIG Networks                             |
| Overlap Receiving - Q-SIG   | Overlap Receiving - Q-SIG   | Overlap Receiving - Q-SIG   |
| Overlap Sending - Q-SIG   | Overlap Sending - Q-SIG   | Overlap Sending - Q-SIG   |
| Q-SIG Circuit Switched Basic Call - ETSI Version  | Q-SIG Circuit Switched Basic Call - ETSI Version  | Q-SIG Circuit Switched Basic Call - ETSI Version  |
| -   | Alternate Routing for ISDN  | Alternate Routing for ISDN  |
| -   | Malicious Call Trace  | Malicious Call Trace  |

# Business Feature List

Following business features are available through ISDN.

## **Account Code**

## **Answer Key**

## **Authorization Code**

## **Automated Attendant**

## **Broker's Call**

## **Call Forwarding**

- Call Forwarding - All Calls
- Call Forwarding - Busy Line
- Call Forwarding - No Answer
- Multiple Call Forwarding - All Calls
- Multiple Call Forwarding - Busy Line
- Multiple Call Forwarding - No Answer
- Split Call Forwarding - Busy Line
- Call Forwarding - Override
- Group Division

## **Call History**

- Outgoing Call History (Stack Dial)

## **Call Park**

- Call Park - System

## **Call Pickup**

- Call Pickup - Direct
- Call Pickup - Group

## **Class of Service**

## **Code Restriction**

## **Conference (Three/Four Party)**

## **Consecutive Speed Dial**

## **Consultation Hold**

## **Delayed Ringing**

## **Direct Inward Termination (DID)**

- DID Call Waiting
- DID Digit Conversion

## **Direct Inward System Access (DISA)**

## **Direct Inward Termination (DIT)**

## **Distinctive Ringing**

## **Do Not Disturb**

## **Elapse Call Timer**

## **Forced Account Code**

## **Group Listening**

## **Hold**

- Hold - Call Hold
- Hold - Exclusive Hold
- Hold - Nonexclusive Hold

## **Last Number Redial**

## **Least Cost Routing 3/6 Digi**

## **Night Service**

- Call Rerouting
- Day/Night Mode Change by Station Dialing
- Trunk Answer from Any Station (TAS)

## **PC Programming**

## **Route Advance**

## **Save and Repeat**

## **Station Hunting**

- Station Hunting - Circular
- Station Hunting - Terminal
- Station Hunting - Secretarial

## **Station Message Detail Recording (SMDR)**

## **Station Speed Dialing**

## **System Speed Dialing**

## **Tenant Service**

## **Trunk Queueing - Outgoing**

## **Trunk - to - Trunk Connection**

## **Uniform Call Distribution (UCD)**

- Silent Monitor - UCD

## **Voice Mail Integration (Analog)**

# Supported Network Services

## (Trunk pre-provisioned only)

### AT&T

- Software Defined Network
- Global Software Defined Network
- International 800 Service
- International MEGACOM<sup>®</sup>

Also, AT&T's Alternate Destination Call Redirection feature is supported by the SV8300.

### NT

- Incoming **Note**
  - Private
  - Tie
  - WATS
  - 800WATS
- Outgoing **Note**
  - DID/DOD

**Note:** *Services that do not require NSF can be supported by the SV8300.*

# Bearer Capability

In the case of tandem connections between ISDN/Q-SIG/CCIS/ACIS (except “data call” on CCIS), SV8300 sends “3.1 kHz audio” as Information transfer capability of the Bearer Capability in the outgoing setup message.

At terminating SV8300, received bearer capabilities are converted as shown below.

Speech, 3.1 kHz audio --> 3.1 kHz audio



---

# Addressing

---

## General Description

The SV8300 supports E.164 numbering plan as Type of Number (TON) / Numbering Plan Identifier (NPI) combination in Calling and Called Party Number Information Element for ISDN calls.

## Operating Procedure

No manual operation is required.

## Service Conditions

1. The 2BRI or PRI blade is required.
2. When a call terminates to a Multiline Terminal via ISDN (PRI/BRI), a calling party number is displayed on Multiline Terminal LCD according to TON and NPI combination in Calling Party Number Information Element of SETUP message.

(Example)

- When TON=International, NPI=E.164  
00XX-XX (00: International Prefix, XX-XX: Calling party number)
- When TON=National, NPI=E.164  
0XX-XX (0: National Prefix, XX-XX: Calling party number)
- When TON=NPI=unknown  
XX-XX (XX-XX: Calling party number)

To make call back possible, it is selectable to display the trunk access code at the head of the number in system data programming.

**Note:** *International and National prefixes are defined in each country.*

3. When originating a call from an extension via ISDN, it is possible to change TON and NPI in Calling Party Number Information Element of SETUP message in system data programming.

# Advice of Charge - Display

---

## General Description

When an outgoing connection is made on the ISDN trunk, this feature provides the call originator with the charge information from the network. The information will be displayed on the calling Multiline Terminal LCD for six seconds after the station has been released, and be output to the SMDR/PMS port.

---

## Operating Procedure

No manual operation is required.

---

## Service Conditions

### ■ General Conditions

1. Advice of Charge (AOC) service is supported based on the following specifications.
  - ISDN AOC-E, which is based on the AOC supplementary service for ISDN (ETS 300 182, August 1993).
  - Display AOC-E, which uses the ISDN Display Information Element, as defined in ITU-T Q.931 to convey textual AOC information.
  - CEPT AOC-E, which uses the CEPT Charge Advice Information Element.
2. This feature supports only Advice of Charge at the end of the call (AOC-E). If Advice of Charge during the call (AOC-D) information is sent, the information is ignored.
3. The 2BRI or the PRI blade is required.
4. Charge information control for each country is specified by the ISDN protocol type setting in system data programming.
5. The CPU calculates the call charge according to the UT (charging unit) sent from the AP (BRT/PRT).

Call charge=UT x Unit rate

UT (charging unit): UT sent from AP

Unit rate: Rate specified by system data programming

6. The unit rate can be set to two places of decimals. When the unit rate has three or more decimal places, it is required to round up or truncate the number to two decimal places and set that value. The integral part of unit rate can be set to maximum two digits.
7. If AOC information is not sent due to the cause of network, call charge information is not displayed.
8. The call charge information is displayed on a Multiline Terminal in the following range.

0.01 - 655.35

**Note:** "655.35" is the maximum value, which the CPU can calculate.

### ■ Conditions for ISDN AOC-E

The AOC-E Supplementary Service for ISDN, as specified in ETS 300 182 (1993), is used in the following countries. Two variants of ISDN AOC-E exist. One operation is used to convey charge information in currency (AOC-E, Currency) and the other operation is used to convey charge information in units (AOC-E, Unit). Both variants are in use.

- Austria (Unit)
- Belgium (Currency)
- Denmark (Currency)
- France (Unit)
- Germany (Unit)
- Greece (Unit)

### ■ Conditions for Display AOC-E

The public ISDN uses the Q.931 Display Information Element to convey AOC information to the subscriber (PBX) in the following countries:

- Netherlands
- Switzerland
- Portugal
- Luxemburg

### ■ Conditions for CEPT AOC-E

CEPT AOC-E based implementations are used in the following countries:

- Italy
- Spain (Telefonica)
- Sweden

### ■ Conditions for ISDN-AOC-E information output to PMS

1. This feature is available where the ISDN trunk signaling is Q931 and the billing method is AOC-E. The applicable countries are as follows.  
Italy, Netherlands, Greece, Sweden, Spain, Germany, France, Portugal, Luxembourg
2. ISDN-AOC information is transmitted to PMS at the end of call.
3. The call charge notification and the call unit notification to PMS cannot be used at the same time. It is required to select which information is notified by system data programming.
4. The call charge to be notified to PMS is up to six digits.  
Ex. 10000.00 Euro or more => 9999.99 is displayed (after the decimal point is Euro cent)
5. The call unit is notified to PMS in increments of one call unit, and less than one call unit (after the decimal point) is not considered.
6. When the call charge notification to PMS is set, the call charge is calculated by [Call unit x Unit rate]. A unit rate must be set in system data programming.
7. The upper limit of the call unit to be notified to PMS is 65535.

## Advice of Charge - Display

---

### ■ Conditions for ISDN-AOC-E information output to SMDR

The call charge and the call unit can be output at the same time. The conditions of output of call unit and call charge in SMDR are as follows.

1. SMDR-RS (Output conditions of both 2400IMS standard format and extended format are the same.)
  - a. Up to four digits are output for a call unit. If it exceeds four digits, 9999 is output. An empty digit is output as 0.
  - b. Up to six digits are output for a call charge. If it exceeds six digits, it is output as 999999. An empty digit is expressed as a space.

2. SMDR-LAN  
Same as SMDR-RS

3. Output example  
When the call unit is 16 and the call charge is 16 Euro 32 cents

| Output      | Call Unit | Call Charge |
|-------------|-----------|-------------|
| SMDR-RS/LAN | 0016      | ΔΔ1632      |

\*1: Δ indicates a space.

## Alternate Rounting for ISDN

---

### General Description

This feature automatically routes outgoing ISDN call over alternate trunk route.

---

### Station Application

Not applicable

---

### Operating Procedure

No manual operation is required.

---

### Service Conditions

1. This feature is available when Reason Value of DISC / REL / REL\_COMP in response to call setup for an outgoing ISDN call is 34, which means no line or channel is available.
2. This alternate routing can be allowed or denied on a trunk route basis by system programming.
3. The alternate trunk route can be assigned by system data.

**Note:** *The alternate routing is not available for tandem calls.*

# Call-By-Call Service Selection

---

### General Description

Services can be selected on a call-by-call basis to all channels of a single PRI interface according to applications. That is, unlike Trunk Provisioning Service in which services are assigned to specific channels, services may be used on any available channel.

---

### Operating Procedure

No manual operation is required.

---

### Service Conditions

1. The services that can be designated include ACCUNET, MEGACOM, MEGACOM 800, INTERNATIONAL 800, SDN, MULTIQUEST(AT&T), and PRIVATE, INWATS, OUTWATS, FX, TIE (Northern Telecom).
2. Channel selection is possible by the LCR function only.  
**Note:** *During call termination, there is no indication of which service is being used.*
3. A Network-Specific Facilities Network ID of up to five digits can be sent to the ISDN Network.
4. Transit Network Selection Information Element can be sent to ISDN Network.

## *Called Party Recognition Service* *(Direct-In Termination (DIT))*

---

### **General Description**

This feature provides an incoming *Direct-In Termination* (DIT) call via an ISDN trunk to be connected to a pre-determined station. This application can be used for a station or modem.

---

### **Operating Procedure**

No manual operation is required.

---

### **Station Application**

All stations

---

### **Service Conditions**

1. For incoming calls in a Primary Rate Interface trunk, this service feature should be used only when DID trunks are not desired.
2. Refer to the Features and Specifications Manual (Business/Hotel) for details on service conditions.

# Channel Negotiation

---

### General Description

When collisions of data occur between an outgoing call to ISDN and an incoming call from ISDN, the B channel that SV8300 specified will be busy on the network and the network will specify another B channel. This feature provides negotiation for the selection of a B-channel between the SV8300 and the network, when the SETUP message is delivered.

---

### Operating Procedure

No manual operation is required.

---

### Service Conditions

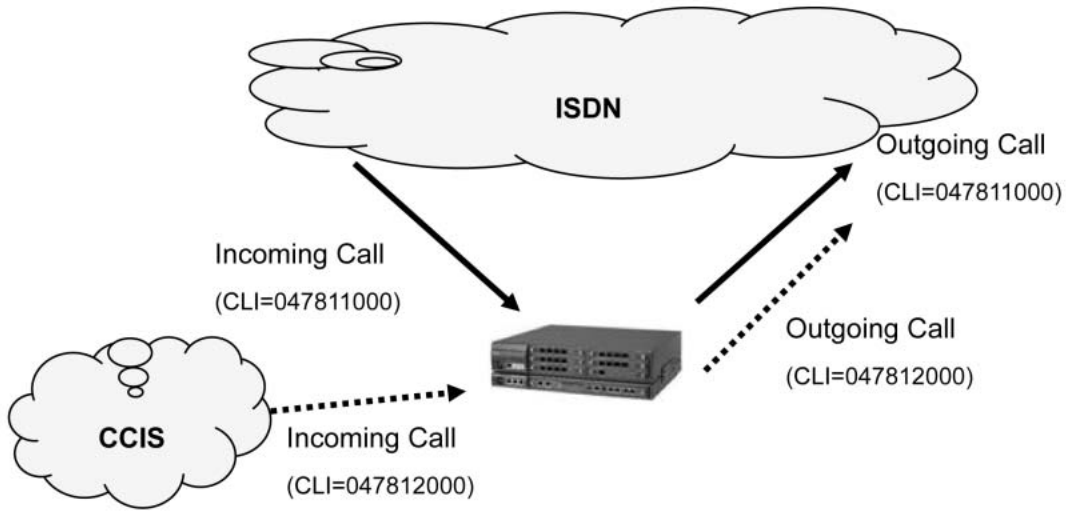
1. This feature conforms to ETSI standard: ETS 300 403-1 (sub clause 5.2.3.1/Q.931).
2. The 2BRI or PRI blade is required.
3. This feature is available for ISDN outgoing call from a Single Line Telephone, Multiline Terminal, Attendant Console and trunk (ISDN, CCIS, ACIS), but not available for outgoing call from an ISDN Terminal.
4. En-bloc sending and overlap sending are available as call origination procedure.



# CLI Transparency

## General Description

This feature provides a Calling Line Identity (CLI) received from ISDN or CCIS trunk to transparently send outgoing ISDN trunk, in case of tandem connection (ISDN-to-ISDN or CCIS-to-ISDN).



## Operating Procedure

No manual operation is required.

## Service Conditions

1. This feature is designed and available for European countries.
2. This feature is available for a tandem connection of ISDN-to-ISDN and CCIS-to-ISDN.
3. Below tables show a priority of CLI sent to ISDN, in case of ISDN-to-ISDN tandem connection.

### Normal Tandem Connection

| Priority | CLI sent to outgoing ISDN trunk       |
|----------|---------------------------------------|
| 1        | CLI received from incoming ISDN trunk |
| 2        | CLI assigned to outgoing ISDN trunk   |
| 3        | No CLI is sent to outgoing ISDN trunk |

## Call Forwarding - Outside/Mobility Access (MA) Forwarding to ISDN Trunk

| Priority | CLI sent to outgoing ISDN trunk   |
|----------|---|
| 1        | CLI received from incoming ISDN trunk                                       |
| 2        | CLI assigned to a station that sets Call Forwarding - Outside or MA station |
| 3        | CLI assigned to outgoing ISDN trunk   |
| 4        | No CLI is sent to outgoing ISDN trunk                                       |

4. Below tables show a priority of CLI sent to ISDN, in case of CCIS-to-ISDN tandem connection.

### Normal Tandem Connection

| Priority | CLI sent to outgoing ISDN trunk       |
|----------|---------------------------------------|
| 1        | CLI received from incoming CCIS trunk |
| 2        | CLI assigned to outgoing ISDN trunk   |
| 3        | No CLI is sent to outgoing ISDN trunk |

## Call Forwarding - Outside/Mobility Access (MA) Forwarding to ISDN Trunk

| Priority | CLI sent to outgoing ISDN trunk   |
|----------|---|
| 1        | CLI received from incoming ISDN trunk                                       |
| 2        | CLI assigned to a station that sets Call Forwarding - Outside or MA station |
| 3        | CLI assigned to outgoing ISDN trunk   |
| 4        | No CLI is sent to outgoing ISDN trunk                                       |

# Connected Line Identification Presentation (COLP) / Connected Line Identification Restriction (COLR)

---

## General Description

Connected Line Identification Presentation (COLP) provides the SV8300 to send the ISDN number of the connected party in the SV8300, to the calling party.

Connected Line Identification Restriction (COLR) provides the SV8300 to restrict presentation of the connected party's ISDN number in the SV8300, to the calling party.

---

## Operating Procedure

No manual operation is required.

---

## Service Conditions

1. This feature conforms to following ETSI standard.  
COLP: EN 300 094, EN 300 097  
COLR: ETS 300 095, EN 300 098
2. The 2BRI or the PRI blade is required.
3. A number, type of number (TON) and numbering plan identifier (NPI) included in connected line identification number information are determined by system data programming and TON and NPI combination in calling party number information element of terminating SETUP message.
4. Connected line subaddress is not supported.
5. Multiline Terminal can display the connected line number up to 16 digits of ISDN number.
6. Connected line number presentation can be restricted in system data programming, in station class of service and trunk route basis.
7. When the call originating SV8300 receives "connected line number" and "presentation indicator=presentation restricted" in the connected number information element of CONNECT message from ISDN network, the SV8300 displays a called number instead of the connected line number.
8. The ETSI specification and Telefonica specification differ in the method of coding of connected line identification number information element.
  - ETSI specification: code set 0
  - Spain Telefonica specification: code set 5Telefonica service is not available for origination from and termination to an ISDN Terminal.

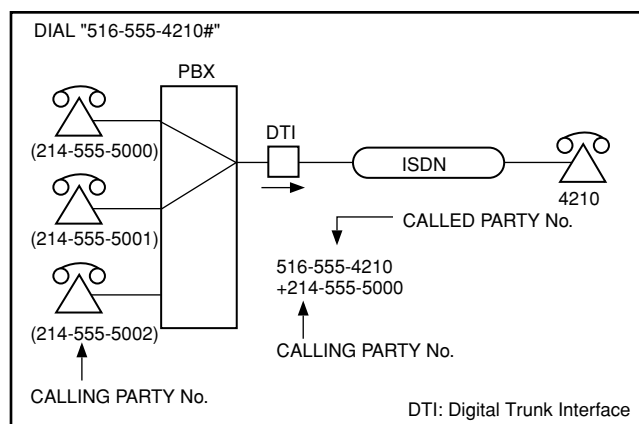
### Interactions

1. Call Forwarding  
When the connected line party has set Call Forwarding – All Calls/Busy Line/No Answer, the connected line number of forward destination is sent to the calling party.
2. Call Pickup  
The connected line number of the station that picks up an incoming ISDN call is sent to the calling party.
3. Station Hunting  
The connected line number of the station that answers an incoming ISDN call with Station Hunting is sent to the calling party.

## CPN To Network - Present

### General Description

This feature allows the ISDN network to be informed of the calling party number (CPN) when a call originates from a terminal connected to the System.



For this example, the CPN sent to the network may be 214-555-5000 for every station in the PBX, or each station may present a unique extension number (last four digits) to the ISDN network.

### Operating Procedure

No manual operation is required. The calling station number is sent to the ISDN automatically.

### Service Conditions

1. The data provided as the calling station number is assigned via SV8300 PCPro/CAT for each ISDN circuit or station. In addition, if no data has been assigned as the calling station number, the system will not provide any information to the network.
2. A maximum of 16 digits can be assigned as the calling station number.
3. The maximum number of area codes and office code patterns is 15.
4. Class of Service programming can specify CPN transmission to the ISDN network. Programming is required for each station.
5. The delivery of CPN information is subject to local regulations.

#### ■ Service Conditions on Calling Name Present

1. This service is available for ISDN NI-2 only. The PRI blade is required. It is not available for BRI.
2. This service supports only the FACILITY information element of a SETUP message. This service does not support NOTIFY and FACILITY messages, and other information elements of SETUP message.
3. SV8300 transmits the name information that has been registered as station name information to ISDN.
  - a. Maximum 16 characters can be sent.
  - b. If name information includes a space, and characters such as @, and "-", the space and the character are transmitted without modification.

- c. Name information can be transmitted from a Single Line Telephone, Multiline Terminal and PS.
  - d. If a calling station has not set the station name by system data, the station name is not sent.
  - e. When a calling station is an Attendant Console or ISDN Terminal, name information is not sent.
4. Name registered for an incoming trunk or an outgoing trunk cannot be transmitted.
  5. When a call is originated from a sub-line, either name of My Line or Sub-Line can be sent by setting of the system data.
  6. When a tandem connection is made from CCIS to ISDN, name information received from CCIS cannot be relayed to ISDN.
  7. When a tandem connection is made from QSIG to ISDN, name information received from QSIG cannot be relayed to ISDN.
  8. Whether name information is sent or not can be set by service restriction class of each station (Default data is to be sent).
  9. When Guest Name Display from PMS is enabled in hotel system, the guest name registered from PMS is sent.

# CPN To Terminating User - Display

## General Description

This feature provides a visual display of the calling party number and subaddress information on a Multiline Terminal or an Attendant Console for incoming ISDN calls. This provides the terminal user with a quick and accurate way to identify the Calling Party Number (CPN).

## Operating Procedure

No manual operation is required. The calling party number is automatically displayed on the Terminal.

### To change the Calling Number Display/Calling Name Display while the number or name is displayed

Press the display selection key of the Multiline Terminal or Attendant Console while the calling number or name is displayed. Every time the key is pressed, the display changes to the calling name or number alternatively.

## Service Conditions

1. This feature is available on the Multiline Terminal with Display, Attendant Console and D<sup>term</sup>PSII/III.
2. A maximum of 16 digits forming the calling party number (CPN), including the PBX access code, can be displayed. For subaddress, a maximum of eight digits can be displayed. If the subaddress exceeds eight digits, the first eight digits are displayed. Below is an example of the display when the CPN is 214-555-5000, and the subaddress is 82623667:

|                |   |   |   |   |   |   |   |   |            |   |                      |
|----------------|---|---|---|---|---|---|---|---|------------|---|----------------------|
| (Elapsed time) | 8 | 2 | 6 | 2 | 3 | 6 | 6 | 7 | subaddress |   |                      |
|                | 2 | 1 | 4 | 5 | 5 | 5 | 5 | 0 | 0          | 0 | calling party number |

3. The CPN is flashing while the Multiline Terminal is ringing on its Prime Line. The duration of display after the call is answered can be selected by system data programming (display for six seconds or continuously).

### ■ Service Conditions on Calling Name Display

1. If the ISDN provides Name Display service (NI-2), the calling party name can be displayed in place of the CPN. (A maximum of 16 characters)
2. If the ISDN provides Name Display service (DMS100), the calling party name can be displayed in place of the CPN. (A maximum of 16 characters)
3. The calling name from ISDN can be received by terminating systems such as Trunk Direct Appearance (02), Trunk Direct Appearance + TAS (03), Direct-In Termination (04), Automated Attendant (09), ISDN Indial (18), and Attendant Console (14).  
In addition, Sub-address termination is available.
4. The PRI blade is required.
5. When Call Forwarding or Call Transfer routes an incoming call from ISDN to a Multiline Terminal/PS in the own office, the calling name is displayed on the destination station of Call Forwarding or Call Transfer.

## CPN To Terminating User - Display

---

6. Calling Name Display on ISDN Terminals is not supported.
7. Calling Name Display or Calling Number Display can be selected as the initial display in station Class of Service.
8. The display can be changed to the calling name or calling number by pressing the display selection key on a Multiline Terminal or an Attendant Console while the number or name is displayed.
9. When the terminating system is set to Trunk Direct Appearance or Attendant Console, the calling name is displayed only after the called party answers the call.
10. Conditions on Tandem Connection
  - a. The calling name received from ISDN is relayed, only via CCIS, with tandem connection. (A maximum of 16 characters)
  - b. When Call Forwarding routes an incoming call from ISDN to CCIS, the calling name is relayed via CCIS to the destination of Call Forwarding.
  - c. When the calling name from NI-2 is received as a FACILITY message, the name cannot be relayed to CCIS. Only when the calling name from NI-2 is received as a SETUP message, the name can be relayed to CCIS.
  - d. Only when the calling name from DMS100 is received as a SETUP message, the name can be relayed to CCIS.
11. Conditions with Other Services
  - a. The calling name received from ISDN has priority over the calling name registered to Station Speed Dialing by system data, so the former is displayed even though the latter has been assigned by system data.
  - b. If the calling name is not received from ISDN, the calling name assigned by system data is displayed if available.
  - c. When a call is relayed to CCIS with tandem connection, the calling name is not relayed to CCIS, if the name is not received from NI-2, even though the calling name has been assigned by system data. However, when Call Forwarding - No Answer routes an incoming call from ISDN to CCIS with tandem connection, the calling name assigned by system data is relayed to CCIS.



## *DID Addressing*

---

### **General Description**

This feature allows incoming ISDN-PRI calls to terminate to stations, Attendant Console, Automated Attendant, etc., based on the Called Party number. Direct Inward Dial trunks will be terminated to programmed destinations without Attendant assistance.

---

### **Operating Procedure**

No manual operation is required.

---

### **Station Application**

Not applicable

---

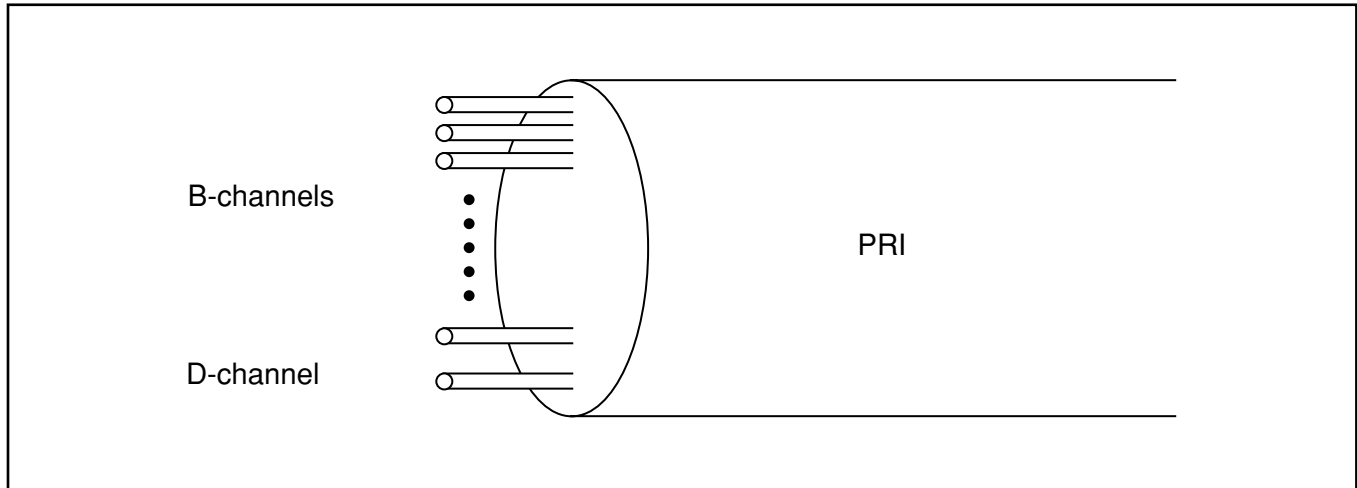
### **Service Conditions**

1. If the network is notified that the destination station for the DID call is busy or a connection-controlled station, the network gives the calling station a Busy Tone. (This depends upon call forwarding services being activated.)
2. If the called station is nonexistent, the DID call can be routed to the Attendant Console, to another designated station, or can receive Reorder Tone.
3. Refer to the Features and Specifications Manual (Business/Hotel) for more details of DID service.

# *DID and DOD Addressing*

## General Description

This feature allows the system to use DID and DOD on the same B channels. Trunk Provisioning Service Selection is not required. (B-channels can be used for DID and DOD without separating the trunk routes.)



## Operating Procedure

No manual operation is required.

## Service Conditions

1. Confirm the DID and DOD selection with the customer's local exchange carrier prior to installation.
2. For more details, refer to "Direct Inward Dialing" and "Direct Outward Dialing" in the Features and Specifications Manual (Business/Hotel).
3. The DID/DOD is supported without service provisioning, since no facility indication to the network is required.

# Incomplete Number Handling

---

### General Description

When a DID number incoming from ISDN is incomplete, SV8300 can transfer the call to a predetermined station or attendant console.

---

### Operating Procedure

No manual operation is required.

---

### Service Conditions

1. This feature is applicable for BRI and PRI. There is no condition with firmware version.
2. This feature should be set in a route basis in system data programming.
3. Maximum number of digits received from ISDN must be set by system data.
4. This feature is available for overlap receiving and en-block receiving. Incomplete Number Handling operation starts at following timing.
  - A: If Overlap Receiving is not provided  
When SETUP message is received regardless of whether Send Complete Information Element is provided or not
  - B: If Overlap Receiving is provided
    - a. When SETUP message is received including Send Complete Information Element
    - b. When INFO message is received including Send Complete Information Element
    - c. When the inter-digit timer is out during Overlap Receiving

# ISDN Terminal

---

## General Description

This feature provides the system with an ISDN Terminal or Terminal Adapter (TA). The following connections are available:

- ISDN Terminal to ISDN Terminal
- ISDN Terminal to ISDN Trunk
- ISDN Trunk to ISDN Terminal
- ISDN Terminal to Single Line Telephone
- ISDN Terminal to Multiline Terminal
- ISDN Terminal to PS

---

## Operating Procedure

No manual operation is required.

---

## Service Conditions

1. The 2BRI blade are required.
2. The ISDN Terminal must be locally powered.
3. The following connections are available:
  - Point-to-Point connection
  - Point-to-Multipoint connection
  - National ISDN 1
  - AT & T
4. The following features are available. Other service features are not available with ISDN Terminal.
  - Individual Terminal Calling (Point-to-Multipoint connection)
  - Group Calling (Point-to-Multipoint connection)
  - Called Party Recognition Service (DIT)
  - DID Addressing
  - DID and DOD Addressing
  - CPN to Network-Present
  - CPN to Terminating User-Display
  - Sub Address-Present
  - Direct Outward Dialing (DOD)
  - Restriction from outgoing call
  - Toll restriction
  - Station-to-Station Calling
  - Station Hunting

- Flexible Numbering Plan
  - Direct-In Termination - CCIS
  - Station-to-Station Calling - CCIS
  - Flexible Numbering of Stations - CCIS
  - Toll Restriction -3/6 Digits - CCIS
5. The ISDN Terminal can provide voice and data communication via the CCIS network. The CCIS network must be digital.
  6. During communication via the CCIS network, the link reconnection is not available.
  7. Station service conditions are as follows:
    - Station Hunting  
When a Single Line Telephone/Multiline Terminal or an ISDN Terminal calls a busy Single Line Telephone/Multiline Terminal, another Single Line Telephone/Multiline Terminal in Station Hunting group is called. **Note**  
When a Single Line Telephone/Multiline Terminal or an ISDN Terminal calls a busy ISDN Terminal, another ISDN Terminal in Station Hunting group is called. **Note**
- Note:** *An ISDN Terminal cannot be included in the same Station Hunting group as Single Line Telephone/Multiline Terminals.*
- Call Forwarding  
An ISDN Terminal cannot set Call Forwarding - All Calls/Busy Line/Don't Answer, and cannot be the destination of Call Forwarding.  
When an ISDN Terminal is a calling station, it can be forwarded to another Single Line Telephone/Multiline Terminal but cannot be forwarded to central office trunk or tie line trunk.
  - Call Transfer  
A Single Line Telephone/Multiline Terminal cannot transfer a call in progress with an ISDN Terminal to another station.  
In the same way, an ISDN Terminal cannot transfer a call in progress with a Single Line Telephone/Multiline Terminal to another station.  
While a Single Line Telephone/Multiline Terminal converses with CCIS trunk and ISDN trunk, the Single Line Telephone/Multiline Terminal cannot transfer the call to an ISDN Terminal.
  - Call Pickup, Call Pickup - Designated group  
An ISDN Terminal cannot be assigned to Call Pickup group and cannot pickup a call to another station. A Single Line Telephone/Multiline Terminal cannot pickup a call to an ISDN Terminal.
  - Executive Override  
During voice communication between a Single Line Telephone/Multiline Terminal and an ISDN Terminal, another Single Line Telephone/Multiline Terminal can interrupt into only a Single Line Telephone/Multiline Terminal. During data communication with an ISDN Terminal, Executive Override is not allowed.
  - Busy Service (Step Call, Call Back)  
When a Single Line Telephone/Multiline Terminal calls a busy ISDN Terminal, busy service such as Step Call and Call Back cannot be provided to the ISDN Terminal.  
It is the same when an ISDN Terminal calls a busy Single Line Telephone/Multiline Terminal.
8. When a Single Line Telephone is calling an ISDN Terminal, or a Single Line Telephone and an ISDN Terminal is in conversation, hooking service is not available. Therefore, at this time other services are not available.

## ISDN Terminal

---

9. A Multiline Terminal can call an ISDN Terminal via Primary Extension or Sub Line. A Multiline Terminal can be called from an ISDN Terminal via Primary Extension or Sub Line.
10. When a Single Line Telephone/Multiline Terminal calls an ISDN Terminal, it can send the calling station number to the ISDN Terminal. At this time, ISDN trunk number and local number are also attached to be sent.
11. Station-to-Station Calling between an attendant console and an ISDN Terminal is not available.
12. In case of Point-to-Multipoint connection, a Single Line Telephone/Multiline Terminal must dial ISDN Multipoint station number assigned by system data, not the ISDN Terminal number assigned by system data.
13. When a Multiline Terminal calls an ISDN Terminal or an ISDN Terminal calls a Multiline Terminal, a calling station number is displayed to the called Multiline Terminal or the ISDN Terminal.  
In case of Point-to-Multipoint connection, the calling station number displayed is the ISDN station number assigned by system data. The ISDN Multipoint station number is not displayed.
14. Station-to-Station Calling between a PS station and an ISDN Terminal is available.
15. Only Preset Dialing can be used from an ISDN Terminal, Overlap dialing is not available.
16. Group Calling  
This feature terminates a call to all ISDN Terminals or Terminal Adapters accommodated on the same bus. Group Calling is available for following connections.
  - ISDN trunk to ISDN Terminal
  - ISDN Terminal to ISDN Terminal
  - Single Line Telephone to ISDN Terminal
  - Multiline Terminal to ISDN Terminal
17. When the ISDN terminal is called, below calling party number is displayed.
  - When the ISDN terminal is called from a single line telephone or Multiline Terminal, either calling station number or calling party number can be displayed by system data programming.
  - When the ISDN terminal is called from another ISDN terminal, the calling party number is displayed if the calling party sends the calling party number. If not, the ISDN station number of the calling party is displayed.

---

---

# Malicious Call Trace

---

## General Description

This feature allows a station and Attendant to send a Malicious Call Trace request to the network when a malicious call arrives via an ISDN trunk.

Malicious Call Trace (hereinafter called MCT) is a supplementary service is intended to be used by called parties to find anyone who has placed malicious calls (such as threatening calls and prank calls) on ISDN lines.

**Note:** *This feature is available in Australia only.*

---

## Station Application

All stations

Attendant Console

---

## Operating Procedure

To set MCT from a Multiline Terminal or Attendant Console

1. When a malicious call terminates to a Multiline Terminal or Attendant Console, press the MCT feature key during communication. The MCT request message is sent to the network.
2. When this service is set, the LCD displays **MCT** for six seconds and the feature key lamp lights in red for two seconds.
3. When the result of MCT is received from the network, the LCD displays **MCT SET** or **MCT NG** for six seconds.

To set MCT from a Single Line Telephone

1. When a malicious call terminates to a Single Line Telephone, press the **FLASH** key (or momentarily press hook switch) and dial the MCT access code during communication. The MCT request message is sent to the network.

---

## Service Conditions

1. MCT can be set only for incoming calls. It cannot be used when placing calls.
2. The MCT access code can be set on a Multiline Terminal and Single Line Telephone.
3. This feature is selectable by service restriction class and trunk route data.
4. MCT request is sent to the BRI/PRI trunk to resume communication between the station and trunk. After that, a message indicating the result of MCT (OK/NG) is received from the ISDN network.
5. If the terminal is a Single Line Telephone, the user cannot check the result because it has no display function.

## Malicious Call Trace

---

6. If you go on-hook after sending an MCT request but before receiving the MCT result, a Disconnect REQ is sent to the network.
7. At the time of tandem termination from the ISDN to CCIS, MCT can be used by a terminating extension (Multiline Terminal, SLT) or an attendant console through CCIS.



---

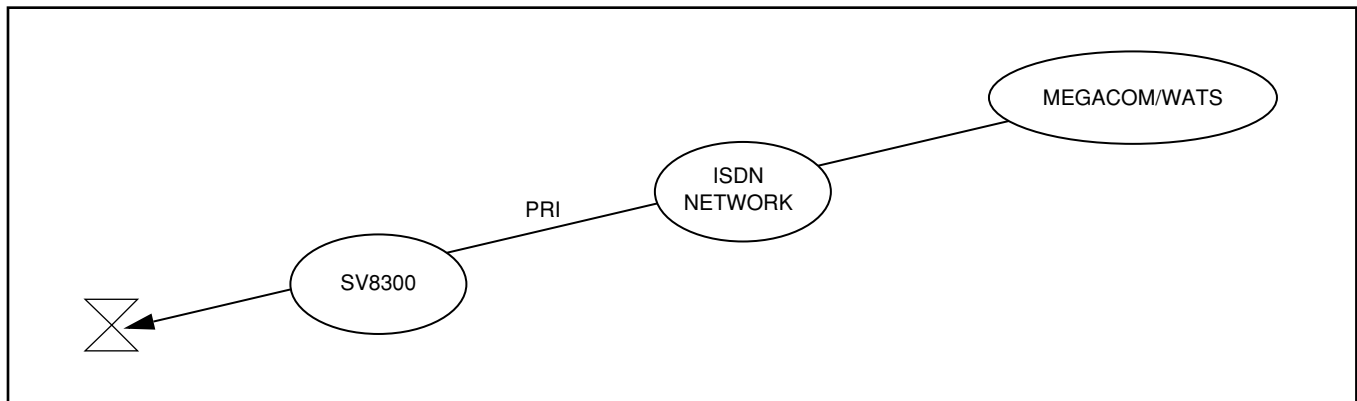
---

# MEGACOM® Access/WATS

---

## General Description

AT&T's MEGACOM® (WATS) network, as well as WATS from other carriers, can be used.



---

## Operating Procedure

No manual operation is required.

---

## Service Conditions

1. The available WATS service is limited to Maximal Subscribed WATS Band (MSB).
2. No specific band will be indicated to the Network.

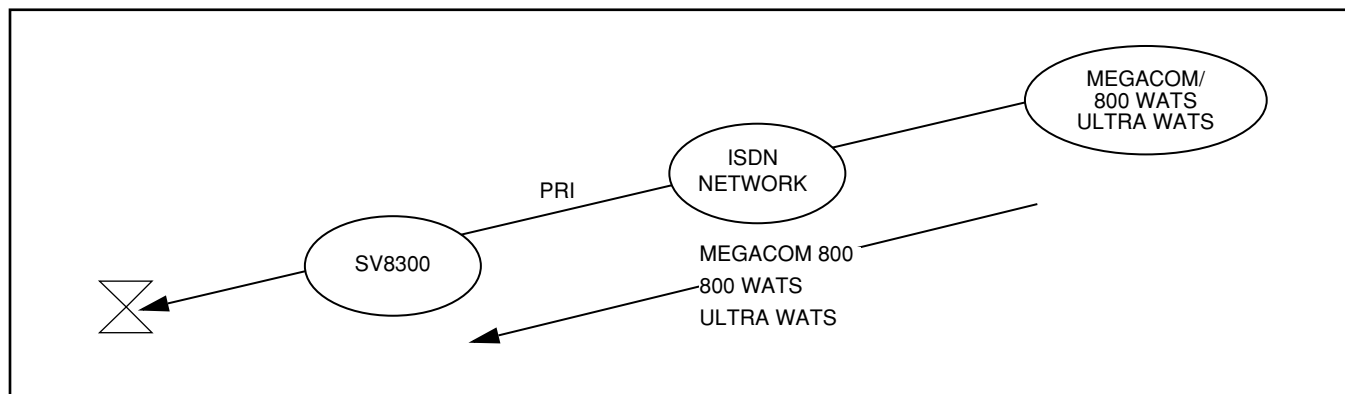
# MEGACOM® 800 Service/800 WATS

## Ultra WATS

---

### General Description

AT&T's MEGACOM® 800 (Inward WATS) network, as well as 800 WATS provided by other carriers, can be used.



---

### Operating Procedure

No manual operation is required.

---

### Service Conditions

1. System data can be used to convert indialed digits.
2. The Dialed Number Identification Service (DNIS) must match the station numbering plan.
3. Multiple DNISs are supported.

---

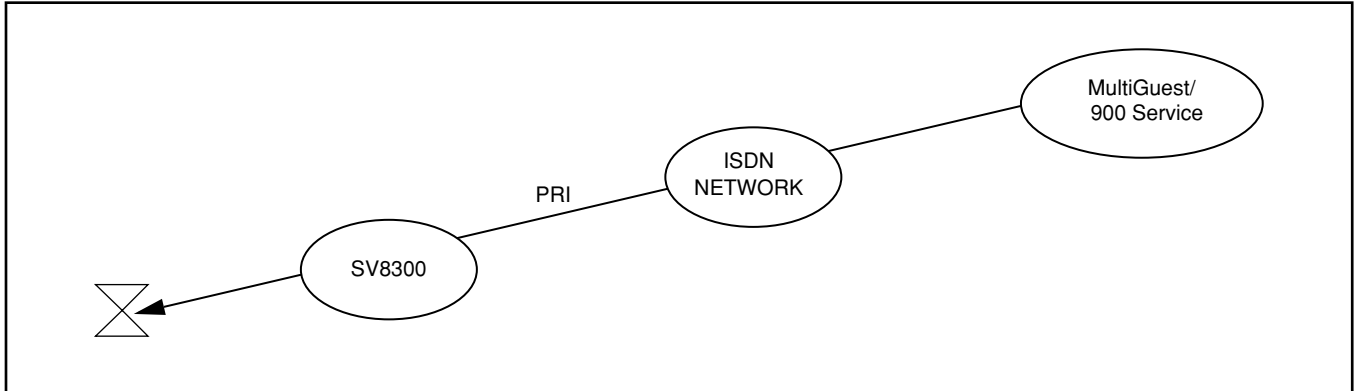
---

# MULTIQUEST® /900 Service

---

## General Description

AT&T's MultiQuest® service can be used. (It is a "900"-type service.) Also, 900 service provided by other carriers can be used.



---

## Operating Procedure

No manual operation is required.

---

## Service Conditions

1. The DNIS (Dialed Number Identification Service) must match the numbering plan of the SV8300.
2. Multiple DNIS numbers are supported.
3. System data can be used to convert DNIS digits received from the ISDN Network.

# Overlap Receiving

---

## General Description

Overlap Receiving is available for an incoming call to the SV8300 from ISDN network.

Overlap Receiving is a procedure, used in call establishment of an incoming call, to enable the network to send called party number digits to the user in successive messages, as and when they are made available from the remote network.

---

## Operating Procedure

No manual operation is required.

---

## Service Conditions

### ■ General Conditions

1. This feature conforms to following ETSI standard.  
ETS 300 102-1  
ETS 300 102-2  
ETS 300 403-1
2. The BRI or the PRI blade is required.
3. After ORT timer/T302 timer (15 seconds) is out, the SV8300 connects or disconnects a call according to the system data programming. When the maximum number of digits has been received, the call is connected. When the received digits do not reach the maximum digits or exceed the maximum digits, the number is treated as an unallocated number.

**Note:** *ORT timer is variable (default: six seconds), and should be set to 15 seconds for T302 timer in system data programming.*

4. Connectable bearer services are Speech/3.1KHz audio/Unrestricted digital.
5. Maximum digit number received from ISDN network must be set in system data programming.
6. When the received digits from ISDN network exceed the maximum digit number set by system data, the SV8300 connects or disconnects a call according to the system data programming.
7. When the sending complete information element is received in SETUP message or INFO message, the SV8300 connects the call at that time even the received digits do not reach the maximum digit number set by system data.
8. When the sending complete information element is not received in SETUP message or INFO message, the SV8300 connects the call at the time when the maximum digit number set by system data is received.
9. When a SETUP message does not include a called party number, the call is connected to the extension or tandem connection is available if the called party number is received in INFO message.
10. When the SV8300 rejects a call connection due to some reasons, the SV8300 sends the following message to the ISDN network.

- a. When a call is disconnected on condition that “Connect at ORT time out” or “Connect when the received digits exceed the maximum digit number” is set, the SV8300 sends RELEASE COMPLETE message, Cause #01 (unallocated number) or #31 (normal, unspecified).
- b. When “Disconnect at ORT time out” is set, the SV8300 sends DISCONNECT message, Cause #01 (unallocated number).
- c. When “Disconnect when the received digits exceed the maximum digit number” is set, the SV8300 sends RELEASE COMPLETE message, Cause #01 (unallocated number).
- d. When an INFO message is received and the received digits exceed the maximum digit number, the SV8300 sends RELEASE COMPLETE message, Cause # 31 (normal, unspecified).
- e. When the bearer service “unrestricted digital” is received in SETUP message and the called station is not a data station, the SV8300 sends RELEASE COMPLETE message, Cause #88 (incompatible destination).

### ■ Conditions on Call termination to extension

Same conditions as ISDN en-bloc receiving are applied.

1. Single Line Station, Multiline Terminal, PS, Attendant Console, and ISDN Terminal can be a destination station.
2. After all digits of called party number are received from ISDN network, the SV8300 connects a call to an extension.
3. Destination station number is developed by DID digit conversion.

### ■ Conditions on Tandem connection

Same conditions as ISDN en-bloc receiving are applied.

1. When a destination station has set Call Forwarding - All Calls/Busy Line/No Answer, tandem connection is available.
2. Without routing through a destination station, direct tandem connection is available with LCR number development.
3. Types of outgoing trunks are ISDN, CCIS, and ACIS.
4. When the outgoing trunk is ISDN or CCIS, the SV8300 sends SETUP or IAI message after all digits of number are received. When the outgoing trunk is ACIS, the SV8300 seizes a trunk and sends the received digits after all digits of number are received.
5. Tandem connection from ISDN to a CCIS trunk route is not available, but LCR from ISDN to CCIS is available.
6. Tandem connection from ISDN to an ISDN trunk route is available with a maximum of eight digits of number conversion including access code. LCR from ISDN to ISDN is also available.
7. Tandem connection from ISDN to an ACIS trunk route, and LCR from ISDN to ACIS are available.

---

## Interactions

Same conditions as ISDN en-bloc receiving are applied.

Call Forwarding - All Calls/Busy Line/No Answer can be set to the destination station. The forward destination can be a station and a trunk (ISDN, CCIS, ACIS).

# Overlap Sending

---

### General Description

Overlap Sending is available for an outgoing call from the SV8300 to ISDN network.

Overlap Sending is a procedure, used in call establishment of an outgoing call, to enable the user to send called party number digits to the network in successive messages.

---

### Operating Procedure

No manual operation is required.

---

### Service Conditions

#### ■ General Conditions

1. This feature conforms to following ETSI standard.  
ETS 300 102-1  
ETS 300 102-2  
ETS 300 403-1
2. The 2BRI or the PRI blade is required.
3. Overlap Sending can be selected every ISDN origination trunk route, but cannot be selected every called number.
4. When a called number exceeds the overlapped digits set by system data in ISDN call origination from an extension or trunk, the called number for overlapped digits is sent to ISDN network through the called number information element of SETUP message. Moreover, called number afterward is sent out through the called number information element of INFO message.
5. At the time of sending the last digit of called number, it is sent adding the sending complete information element on INFO message.
6. When a user stops dialing before sending the last digit of called number, the SV8300 sends INFO message including the sending complete information element after ORT timeout (15 seconds).
7. T304 timer (30 seconds, option) is not supported.
8. Number development in call origination to ISDN is only available for call origination with LCR, not for call origination with trunk route.
9. Addition and deletion of number is available in system data programming (LCR number development).
10. When number deletion (deletion of area code) is set by system data (LCR number development), the number of digits of called number in SETUP message sent to ISDN from the SV8300 becomes 20 digits minus deleted digits. In this case, since the number of digits dialed by users differs from the number of digits sent to ISDN from the SV8300, it is required to set the maximum number of digits by system data respectively.

### ■ Conditions on call origination from an extension

1. This feature is available from Single Line Telephone, Multiline Terminal, PS and Attendant Console, but not available from ISDN Terminal.

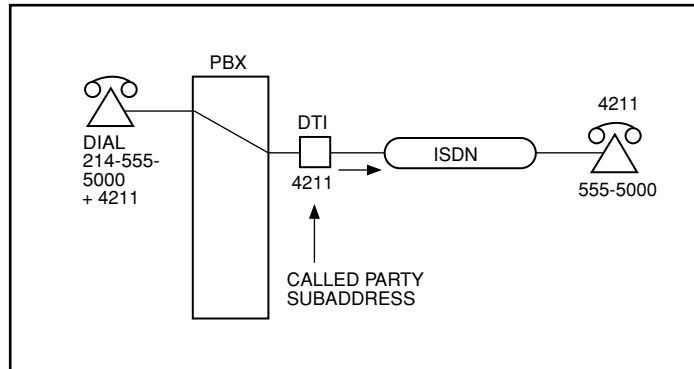
### ■ Conditions on Tandem connection

1. This feature is available for call origination from a trunk (ISDN, CCIS, ACIS).

# Subaddress - Present

## General Description

This feature allows a primary rate interface ISDN trunk to transfer the called party subaddress information to a destination ISDN station when the call is originated by the system. Dialing the called party station number and subaddress is required.



## Operating Procedure

The calling station dials the ISDN subscriber number (including access code) followed by an asterisk (\*), then dials the called party subaddress followed by a pound sign (#). ISDN automatically recognizes the subaddress and transfers the information to the destination party.

## Service Conditions

1. If the calling party fails to dial the called party subaddress, ISDN cannot transfer any called party subaddress information to the destination party.
2. If a calling party does not wish to provide a called party subaddress, the call must dial # (Immediate Start). If a # is not dialed, a Timing Start operation begins. The Timing Start uses the interdigit timeout operation.
3. Subaddress dialing is available only on those telephone terminals that can generate push-button (DTMF) signals.
4. The called party subaddress must not exceed eight digits.
5. The called party subaddress can be sent with trunk direct dial access.
6. This feature cannot be used when a call is originated to ISDN using Speed Dialing or Call Forwarding features.



---

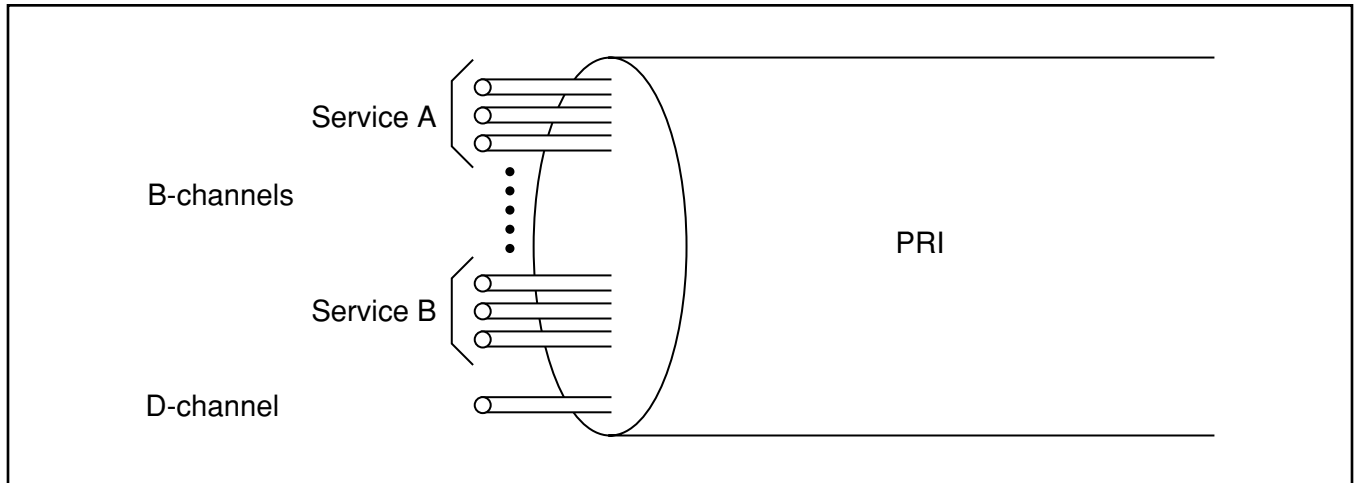
---

## Trunk Provisioning Service Selection

---

### General Description

Each channel of a PRI interface can be dedicated to a particular service. Services are designated to specific channels; once designated, a channel can be used only for that service.



---

### Operating Procedure

No manual operation is required.

---

### Service Conditions

- The services that can be designated include MEGACOM<sup>®</sup>/WATS and MEGACOM<sup>®</sup> 800/800WATS.
- Arrangement with the carrier at the time of provisioning is needed.

## Calling/Connected Line ID Presentation (CLIP/COLP)/ Calling/Connected Name ID Presentation (CNIP/CONP)

### General Description

In between Q-SIG networks, this feature allows calling or called party information, to be displayed on the Multiline Terminal LCD. CLIP/COLP conforms to ETS 300 173 and IS-11572 network. CNIP/CONP conforms to ETS 300 238 and IS-11572 network.

- Calling Line Identification Presentation (CLIP): Calling party number (ID) is displayed on the called party's Multiline Terminal LCD.
- Connected Line ID Presentation (COLP): Called party number (ID) is displayed on the calling party's Multiline Terminal LCD.
- Calling Name Identification Presentation (CNIP): Calling party information (Name ID) is displayed on the called party's Multiline Terminal LCD.
- Connected Name Identification Presentation (CONP): Called party information (Name ID) is displayed on the calling party's Multiline Terminal LCD.

This feature is also available when interworking with a CCIS interface.

### Operating Procedure

No manual operation is required.

### Service Conditions

1. Name ID service is not available when:
    - a tandem office is not provided with this feature or Calling Name Display - CCIS.
    - a call is routed through a signaling interface other than Q-SIG or CCIS.
- Note:** *Available with IS-11572 interface.*
2. The routes to the offices not provided with this feature must be separated from the routes to the offices provided with this feature.
  3. While hearing Ring Back Tone, Name ID of the called party is displayed on the calling party's Multiline Terminal LCD. Note that the display is not changed even if the call is transferred using such features as Call Forwarding - All Calls.
  4. When a call is transferred to another office using a forwarding feature such as Call Forwarding - All Calls - Outside, Name ID of the terminated station is displayed on the calling party's Multiline Terminal LCD.
  5. Even if the called party is in busy or lockout state, the called party's Name ID is displayed on the calling party's Multiline Terminal LCD. However, when the called party is in Do Not Disturb state, Name ID is not displayed.
  6. When a call is transferred using Consultation Hold and Voice Call, Name ID of the calling party is not displayed on the transferred party's Multiline Terminal LCD.
  7. This service cannot be used in conjunction with the ISDN Information Transfer service.

## Calling/Connected Line ID Presentation (CLIP/COLP)/ Calling/Connected Name ID Presentation (CNIP/CONP)

8. The transfer rate is 64 kbps. Bearer Capabilities are as follows:
  - Speech
  - 3.1 kHz audio
9. When Name ID is not assigned, the calling or called party number is displayed.
10. Maximum 16 digits of calling or called party number/name is displayed as shown in the table below. After six seconds of answering, the display returns to Clock/Calendar display.

| NUMBER OF RECEIVED DIGITS | CALLING PARTY'S ID/NAME ID DISPLAY   | CALLED PARTY'S ID/NAME ID DISPLAY  |
|---------------------------|--|--|
| one - eight digits        | Top line: Elapsed time + Calling party number (Right eight digits)<br>Middle line: Calling party name (Right eight digits)       | Top line: Elapsed time + Connected/called/busy party number (Right eight digits)<br>Middle line: Connected/called/busy party name (Right eight digits) |
| 9 - 16 digits             | Top line: Elapsed time (Right eight digits):<br>Blank<br>Middle line: Calling party number or name (Right 16 digits) <b>Note</b> | Top line: Elapsed time (Right eight digits):<br>Blank<br>Middle line: Connected/called/busy party number or name (Right 16 digits) <b>Note</b>         |

**Note:** *Either calling party number display or name display should be selected in system programming.*

11. When originating a call to a Q-SIG line using a Multiline Terminal sub line, Name ID of the Multiline Terminal sub line is sent to the called party.
12. CONP is available only for Prime Line of the calling party.
13. The characters displayed by this service are English alphabets, numerals and symbols conforming to ISO-8859-1.
14. This service is available only for the Multiline Terminal equipped with LCD.
15. This service supports Calling/Connected Name Identification Restriction (CNIR) conforming to ETS 300 238.
16. This service supports Calling/Connected Line Identification Restriction (CLIR) conforming to ETS 300 173.

### Interactions

Name ID is available for the following features:

- Call Forwarding - All Calls - CCIS
- Call Forwarding - Busy Line - CCIS
- Call Forwarding - No Answer - CCIS
- Call Pickup
- Recalling of Call Hold
- Answering of Call Park
- Call Waiting
- Termination from UCD Queuing
- Outgoing Trunk Queuing

## *CCIS Tandem Call-Calling Party Number (CPN) Delivery to ISDN & Q-SIG Networks*

---

### **General Description**

This feature is provided for the call from tie line (CCIS line or Q-SIG) or a station, is sent to the public ISDN network (AT&T, NT, NI-2) or Q-sig network.

---

### **Operating Procedure**

No manual operation is required.

---

### **Service Conditions**

1. This feature programmed by system data is effective when:
  - Calls are originated from CCIS/Q-SIG line to AT&T, NT, NI-2 or Q-sig network.
  - Calls are originated from the station to AT&T, NT, NI-2 or Q-sig network.
  - Calls are originated from the attendant console which is assigned the individual attendant identification number to AT&T, NT, NI-2 or Q-sig network.
2. This feature is not effective when calls are originated from AT&T, NT, NI-2 network to AT&T, NT, NI-2 network.
3. This feature is not available for the call originated using OAI/ACD feature.

# Overlap Receiving - Q-SIG

---

## General Description

Overlap Receiving is available for an incoming call to the SV8300 from Q-SIG network.

Overlap Receiving is a procedure, used in call establishment of an incoming call, to enable the network to send called party number digits to the user in successive messages, as and when they are made available from the remote network.

---

## Operating Procedure

No manual operation is required.

---

## Service Conditions

### ■ General Conditions

1. This feature conforms to following ETSI standard.  
ETS 300 172
2. The PRI blade is required.
3. After ORT timer/T302 timer (14-16 seconds) is out, the SV8300 connects or disconnects a call according to the system data programming. When the maximum number of digits has been received, the call is connected. When the received digits do not reach the maximum digits or exceed the maximum digits, the number is treated as an unallocated number.

**Note:** *ORT timer is variable (default: six seconds), and should be set to 14-16 seconds for T302 timer in system data programming.*

4. Connectable bearer services are Speech/3.1KHz audio. Unrestricted digital is not connectable.
5. Maximum digit number received from Q-SIG network must be set in system data programming.
6. When the received digits from Q-SIG network exceed the maximum digit number set by system data, the SV8300 connects or disconnects a call according to the system data programming.
7. When the sending complete information element is received in SETUP message or INFO message, the SV8300 connects the call at that time even the received digits do not reach the maximum digit number set by system data.
8. When the sending complete information element is not received in SETUP message or INFO message, the SV8300 connects the call at the time when the maximum digit number set by system data is received.
9. The maximum number of receiving digits in SETUP or INFO message is 32 digits.

## Overlap Receiving - Q-SIG

---

### ■ Conditions on Call termination to extension

Same conditions as Q-SIG en-bloc receiving are applied.

Single Line Station, Multiline Terminal, PS, Attendant Console, and ISDN Terminal can be a destination station.

### ■ Conditions on Tandem connection

Same conditions as Q-SIG en-bloc receiving are applied.

1. When a destination station has set Call Forwarding - All Calls/Busy Line/No Answer, tandem connection is available.
2. Without routing through a destination station, direct tandem connection is available with LCR number development.
3. Types of outgoing trunks are ISDN, CCIS, and ACIS.
4. When the outgoing trunk is ISDN or CCIS, the SV8300 sends SETUP or IAI message after all digits of number are received. When the outgoing trunk is ACIS, the SV8300 seizes a trunk and sends the received digits after all digits of number are received.
5. Tandem connection from Q-SIG to a CCIS trunk route is not available, but LCR from Q-SIG to CCIS is available.
6. Tandem connection from Q-SIG to an ISDN trunk route is available with a maximum of eight digits of number conversion including access code. LCR from Q-SIG to ISDN is also available.
7. Tandem connection from Q-SIG to an ACIS trunk route, and LCR from Q-SIG to ACIS are available.

---

## Interactions

Same conditions as Q-SIG en-bloc receiving are applied.

Call Forwarding - All Calls/Busy Line/No Answer can be set to the destination station. The forward destination can be a station and a trunk (ISDN, CCIS, ACIS).

# Overlap Sending - Q-SIG

---

## General Description

Overlap Sending is available for an outgoing call from the SV8300 to Q-SIG network.

Overlap Sending is a procedure, used in call establishment of an outgoing call, to enable the user to send called party number digits to the network in successive messages.

---

## Operating Procedure

No manual operation is required.

---

## Service Conditions

### ■ General Conditions

1. This feature conforms to following ETSI standard.  
ETS 300 172
2. The PRI blade is required.
3. Overlap Sending can be selected every Q-SIG origination trunk route, but cannot be selected every called number.
4. When a called number exceeds the overlapped digits set by system data in Q-SIG call origination from an extension or trunk, the called number for overlapped digits is sent to Q-SIG network through the called number information element of SETUP message. Moreover, called number afterward is sent out through the called number information element of INFO message.
5. At the time of sending the last digit of called number, it is sent adding the sending complete information element on INFO message.
6. When a user stops dialing before sending the last digit of called number, the SV8300 sends INFO message including the sending complete information element after ORT timeout (15 seconds).
7. T304 timer is common to ORT timer (15 seconds fixed).
8. Number development in call origination to Q-SIG is only available for call origination with LCR, not for call origination with trunk route.
9. Addition and deletion of number is available in system data programming (LCR number development).
10. If the own office trunk is idle and the distant office is busy when a call is originated with Overlap Sending, the originating office cannot route the call to another route.
11. Route advance is available.
12. The maximum number of sending digits in SETUP or INFO message is 24 digits.
13. Voice call is supported, but data call is not supported.

## Overlap Sending - Q-SIG

---

### ■ Conditions on call origination from an extension

1. This feature is available from Single Line Telephone, Multiline Terminal, PS and Attendant Console, but not available from ISDN Terminal.

### ■ Conditions on Tandem connection

1. This feature is available for call origination from a trunk (ISDN, CCIS, ACIS).
2. The maximum number of digits of called number is 24 digits at tandem connection.

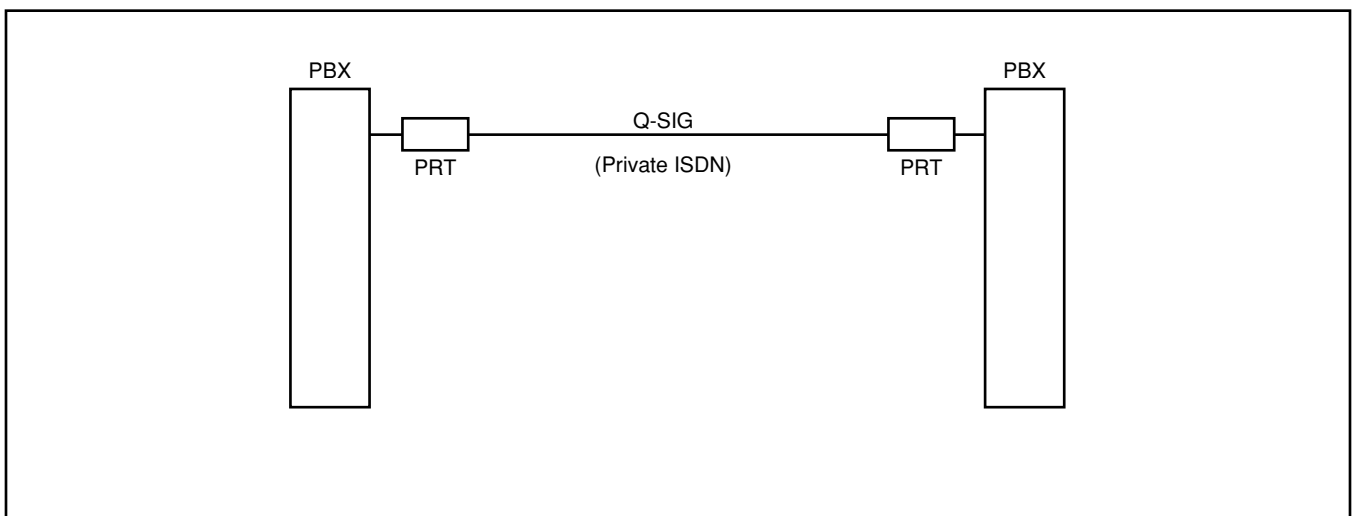


## Q-SIG Circuit Switched Basic Call - ETSI Version

### General Description

This feature enables NEC's PBX to connect to NEC's PBX or other manufacturer by using Layer 3 protocol for the signaling for the support of circuit mode bearer services at the Q reference point.

Q-SIG conforms to ETS 300 172.



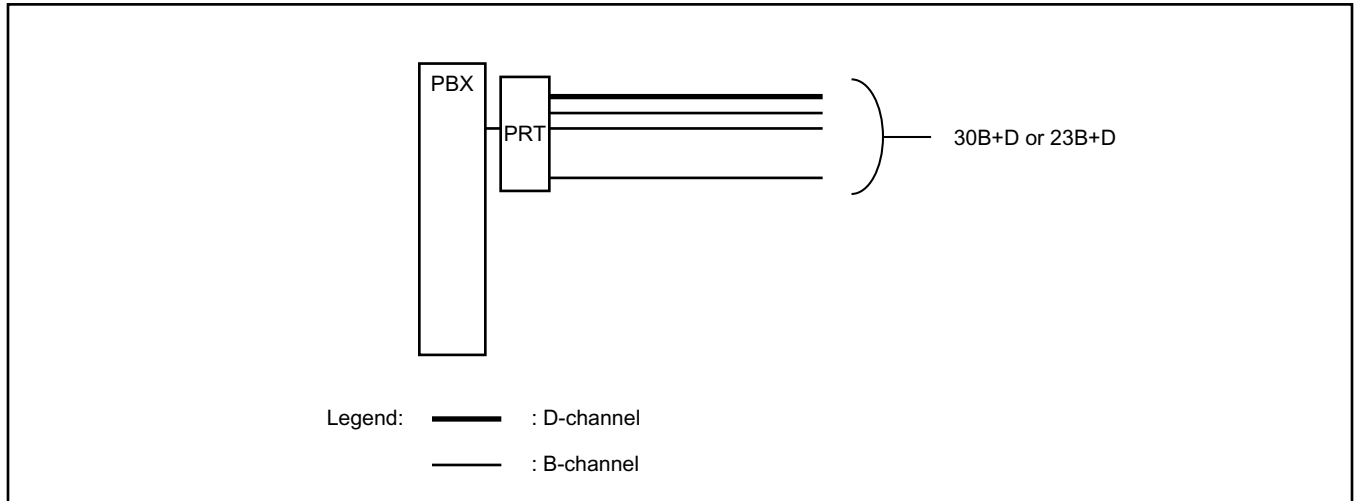
**Note 1:** ETS 300 172= *Private Telecommunication Network (PTN);  
Inter-exchange signaling protocol  
Circuit mode basic service*

# Q-SIG Circuit Switched Basic Call - ETSI Version

## 1. Physical Interface

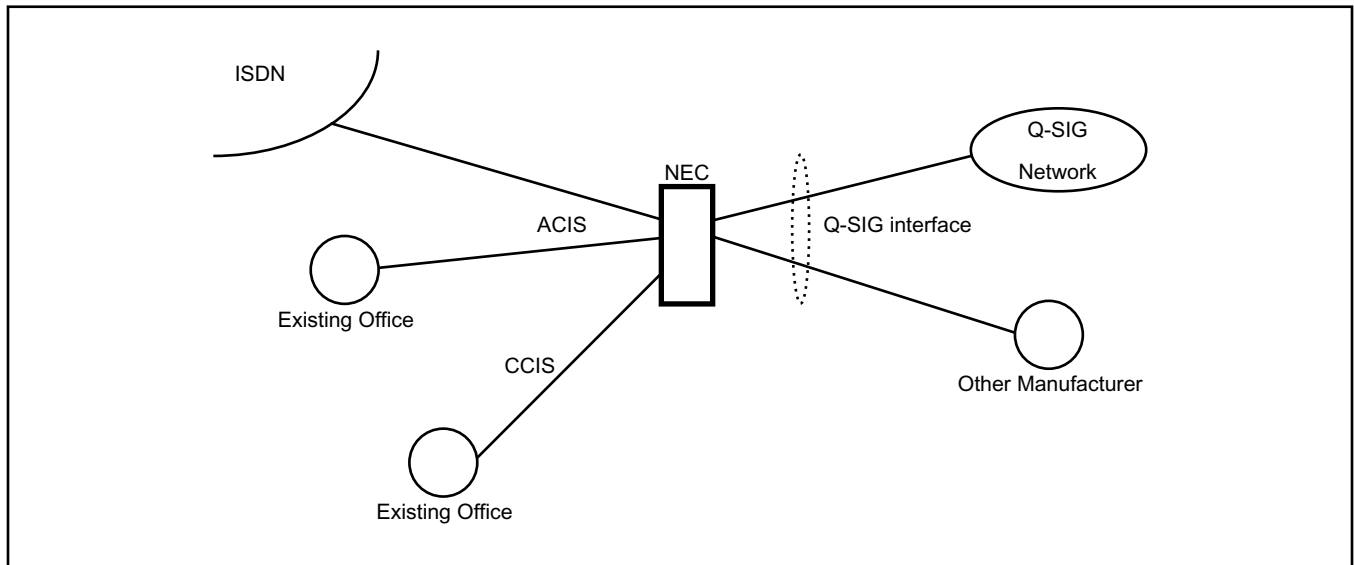
The physical interface is a 2Mbps or 1.5Mbps digital interface.

Maximum 30 B-channels or 23 B-channels are to be controlled by a single Data Link channel.



## 2. Interworking with Other Network

Q-SIG is available to the following connection and interworking with the other network.



### 3. Transparency

| TYPE OF CALL                                  | MANDATORY INFORMATION ELEMENTS                                   | NON-MANDATORY INFORMATION ELEMENTS |
|---|--|------------------------------------|
| Q-SIG $\leftrightarrow$ Q - SIG               | Conforming to ETS 300 172  | Conforming to ETS 300 172          |
| ISDN $\leftrightarrow$ Q-SIG                  | (1) Message Type<br>(2) Called Party Number <b>Note 1 Note 2</b> | Calling Party Number               |
| CCIS $\leftrightarrow$ Q-SIG<br><b>Note 3</b> | Called Party Number  | Calling Party Number               |
| ACIS $\leftrightarrow$ Q-SIG                  | Called Party Number  | None                               |

**Note 1:** When there is no called party number from ISDN, PBX defines the called party number.

**Note 2:** In the connection from Q-SIG to ISDN, PBX adds or deletes digits of the called party number.

**Note 3:** CCIS in this section means CCIS without ISDN transmitting information.

### Operating Procedure

No manual operation is required.

### Service Conditions

1. Redundancy structure
  - a. One D channel can control maximum 30 or 23 B-channels.
  - b. Control using the nB + D interface is available.
2. The multi-rate bearer service is not available.
3. The User-to-User Signaling (UUS) is not available.

### Interactions

The following services can be provided in conjunction with this feature:

- a. Common station/voice service
  - Call Forwarding - All Calls **Note 1**
  - Call Forwarding - Busy Line **Note 1**
  - Call Forwarding - No Answer **Note 1**
  - Caller ID Display **Note 1**
  - Direct-In Termination **Note 1**
  - Call Transfer - All Calls **Note 1**
  - Hot Line **Note 1**
  - Do Not Disturb **Note 1**
  - Calling Number Display
- b. Attendant Console service
  - System Speed Dialing **Note 2**
  - Call Queuing

## Q-SIG Circuit Switched Basic Call - ETSI Version

---

- c. Network features
  - Trunk-to-Trunk Connection
  - Brokerage - Hot Line
  - Least Cost Routing - 3/6 Digit
  - Tie Lines

**Note 1:** *Service not based on the specification of Q-SIG supplementary service.*

**Note 2:** *Service provided with some limitations.*

# Feature Availability Chart

| SV8300 ISDN Features<br>(Global Feature Name)  | Applicable Market |    |      |      |      | IPS | SV8300 |
|--|-------------------|----|------|------|------|-----|--------|
|  | US                | EU | LASC | AUST | ASIA | R14 | R1     |
| Addressing   | -                 | X  | -    | -    | -    | X   | X      |
| Advice of Charge - Display   | -                 | X  | -    | -    | -    | X   | X      |
| Call-By-Call Service Selection   | X                 | -  | -    | -    | -    | X   | X      |
| Called Party Recognition Service (Direct-In Termination (DIT))                                       | X                 | X  | X    | X    | X    | X   | X      |
| Channel Negotiation  | -                 | X  | -    | -    | -    | X   | X      |
| CLI Transparency   | X                 | X  | X    | X    | X    | X   | X      |
| Connected Line Identification Presentation (COLP) / Connected Line Identification Restriction (COLR) | -                 | X  | -    | -    | -    | X   | X      |
| CPN To Network - Present   | X                 | X  | X    | X    | X    | X   | X      |
| CPN To Terminating User - Display  | X                 | X  | X    | X    | X    | X   | X      |
| DID Addressing   | X                 | X  | X    | X    | X    | X   | X      |
| DID and DOD Addressing   | X                 | X  | X    | X    | X    | X   | X      |
| Incomplete Number Handling   | -                 | X  | -    | -    | -    | X   | X      |
| ISDN Terminal  | X                 | X  | X    | X    | X    | X   | X      |
| MEGACOM® Access/WATS   | X                 | -  | -    | -    | -    | X   | X      |
| MEGACOM® 800 Service/800 WATS/Ultra WATS   | X                 | -  | -    | -    | -    | X   | X      |
| MULTIQUEST®/900 Service  | X                 | -  | -    | -    | -    | X   | X      |
| Overlap Receiving  | -                 | X  | -    | -    | -    | X   | X      |
| Overlap Sending  | -                 | X  | -    | -    | -    | X   | X      |
| Subaddress - Present   | X                 | X  | X    | X    | X    | X   | X      |
| Trunk Provisioning Service Selection   | X                 | -  | -    | -    | -    | X   | X      |
| X = available<br>- = not available   |                   |    |      |      |      |     |        |

# Feature Availability Chart

| SV8300 Q-SIG Features<br>(Global Feature Name)   | Applicable Market |    |      |      |      | IPS | SV8300 |
|--|-------------------|----|------|------|------|-----|--------|
|  | US                | EU | LASC | AUST | ASIA | R14 | R1     |
| Calling/Connected Line ID Presentation (CLIP/<br>COLP)/Calling/Connected Name ID Presentation<br>(CNIP/CONP) | -                 | X  | -    | -    | -    | X   | X      |
| CCIS Tandem Call-Calling Party Number (CPN)<br>Delivery to ISDN & Q-SIG Networks                             | -                 | X  | -    | -    | -    | X   | X      |
| Overlap Receiving - Q-SIG  | -                 | X  | -    | -    | -    | X   | X      |
| Overlap Sending - Q-SIG  | -                 | X  | -    | -    | -    | X   | X      |
| Q-SIG Circuit Switched Basic Call - ETSI Version   | X                 | X  | X    | X    | X    | X   | X      |
| Alterrate Routing for ISDN   | -                 | -  | -    | X    | -    | X   | X      |
| Malicious Call Trace   | -                 | -  | -    | X    | -    | X   | X      |
| X = available<br>- = not available   |                   |    |      |      |      |     |        |