HiPath 1100

HiPath 1120
HiPath 1150
HiPath 1190

SIEMENS

Global network of innovation

Service Manual

HiPath 1100

Models HiPath 1120/1150/1190

Service Manual

Selo CE

O Selo CE confirma a homologação deste equipamento em conformidade com as normas UE1999/5/EG.

Certificado Ambiental

Este equipamento foi produzido segundo as diretrizes de nosso sistema certificado de gestão ambiental (ISO 14001). Este processo garante a redução ao mínimo do consumo de matérias primas e de energia, assim como emissão de resíduos industriais.

A31003-K1160-S100-03-V420

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1 Important Information

HiPath 1100 Telecommunications Systems are compatible with TN-S and TN-C-S power systems featuring a PEN conductor divided into two parts: a safety ground conductor (PE) and a neutral conductor (N) as defined in IEC 364-3.

Warning
Only service and installation personnel should open the PABX box and/or connect and handle trunk and extension lines.

1.1 Safety Information

The following information is intended for service personnel and authorized technicians.

Read carefully all the information pertaining to this equipment and follow all safety guidelines. Become familiar with all emergency numbers.

Whenever work conditions are not absolutely safe, make sure to discuss the situation with a supervisor before starting to work. For example, humidity or risk of an explosion due to the presence of gas should be talked about before proceeding.

Safety Symbols

The following symbols are used to indicate potential hazards
:

Danger

This symbol indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

Warning

This symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Caution

This symbol indicates a potentially hazardous situation which may lead to a minor to moderate injury or may damage the hardware or software.

This symbol identifies useful information.

Other symbols that indicate potential hazardous situations

Most of these symbols do not appear in this manual but may appear on the equipment.

*Electrostatically Sensitive Device

1.1.1 Safety Information: danger

Ground Safety

Ensure that all proper ground connections have been made before operating the system. **Never** operate the equipment before connecting the ground wire.

Dangerous Voltages

Voltages higher than 30 VAC (alternating current) or 42 VDC (direct current) are classified as dangerous voltages (EN 60950).

Damage

- Replace the power cord immediately if there is any sign of damage.
- Replace any damaged safety equipment immediately (covers, labels, safety cables).
- Use Siemens-approved cables and modules only. The use of accessories that are not recommended for the system may cause it to malfunction.

Make sure power is turned off while equipment is being serviced.

When maintenance services require shutting down the system, make sure to disconnect all power supplies.

Working on low voltage network circuits

- Only qualified technical personnel should work on low voltage network systems (100-240 V ac).
- Never work alone when working with high voltage circuits. Make sure there is another person present who knows the location of the circuit breakers.
- Never touch live wires that are not properly insulated.
- Ensure that no other power source is connected to the equipment. Make sure that the power source being used is protected by means of an additional breaker or fuse.

- Make sure that no circuit is powered up before you start working on the equipment. Never assume that all circuits are automatically disconnected every time a breaker or additional fuse is disconnected.
- Do not connect or remove telephone lines or circuit boards during a thunderstorm.
- Always consider the possibility that a leakage current may be present.
- When working outdoors, never leave the equipment unsupervised.

1.1.2 Safety Information: warning

Hazards when working with large gauge cables

Low voltages and large gauge cables increase the risk of hazardous situations. While large gauge cables are usually of low voltage, their current values are higher. This results in higher risk, specifically in the event of a short-circuit.

Protective Clothing/Equipment

- When working with the equipment, do not wear loose-fitting clothes. Contain long or free-flowing hair.
- To avoid injury and the risk of short-circuiting, do not wear jewelry, watches with metallic wristbands, clothing with metallic accessories or rivets when working with the equipment.
- Always use appropriate eye protection.
- Wear a safety helmet in hazardous situations where there is a risk of injury from falling objects.

Safety Measures

- Shiny or reflective surfaces are conductive. Never touch a live component with a mirror. This can lead to short-circuiting, which may lead to personal injury.
- Unless the equipment's operating instructions specify otherwise, shut-down the power when working in close proximity to a power supply or DC converter.
- Do not try to lift heavy objects by yourself.

1.1.3 Safety Information: Caution

Checking and Measuring Voltage

- Check rated voltage for recommended system installation.

- Proceed very carefully when making measurements on live components or when servicing equipment with the power on.

Main Circuit Breaker

Know the location of the system's main circuit breaker and its conductive capacity. Check this information against the exchange specifications in "Technical Data" on page 2-8 to assess compatibility.

Damage

Only use tools and equipment that are in perfect condition. Do not operate equipment that is damaged. Report any problems to your supervisor.

ESD Protection for Components (ESD)

To protect an electrostatically sensitive device:

- Wear an anti-static wristband before servicing or maintaining the system or any of its modules.
- Always transport the system or its modules in appropriate protective packaging.
- When working with boards, always place them on a grounded conductive base.
- Use grounded soldering irons with only.

Layout of the Cables

Position cables in a manner to prevent damaging them or causing accidents and injuring people.

Battery

FAILURE TO REPLACE BATTERY WITH SPECIFIED BATTERY TYPE CAN CAUSE RISK OF EXPLOSION. DISCARD USED BATTERIES ACCORDING TO INSTRUCTIONS.

1.1.4 General Information

Line/Cable Connections

- All cables coming out of the system must be protected along their entire path inside conduits, ducts or other appropriate routes of conveyance.
- Cables must be connected only to their specified connections points.

Location of Safety Equipment

Once maintenance is finished, return all safety equipment to its proper location.

Inspecting your Tools

Inspect tools regularly. Only tools in perfect condition should be used.

Condensation

When moving the equipment from a cold environment to a location at room temperature, take into consideration “Environmental Conditions” on page 2-10 to prevent the occurrence of condensation. Wait until the equipment is at room temperature and completely dry before turning it on.

Wall Mounting

- Some types of walls (e.g., drywall) have limited weight-bearing capacity. Before installing equipment in wall-mount configuration, make sure the wall can support the weight.
- Examine the condition of the walls to ensure that there are no cracks or damage that indicates the presence of humidity.

Flammable Materials

Do not store flammable materials in close proximity to the equipment.

Hazards at the location of operation

- Ensure that the location is well lit.
- There is a higher risk of an accident occurring in or near unorganized premises.

1.1.5 What to do in Case of an Emergency

Procedures to follow during Accidents

- In the event of an accident stay calm and proceed with caution.
- Turn off the power before touching the victim of an electrical accident.
- If the power cannot be shut down immediately, use an object made of a non-conductive material such as wood to touch the victim and isolate him/her from any electrical current.

First Aid

- You should have knowledge of the first aid principles to follow for victims of electric shock. In the event of an emergency of this kind, it is critical to know CPR in order to help victims who have suffered cardiac arrest or who have stopped breathing. It is also essential to have basic knowledge of the kind of first aid administered to burn victims.
- If the victim is not breathing, perform mouth-to-mouth or mouth-to-nose resuscitation immediately.
- If you have had proper training and the victim's heart is not beating, promptly commence a heart massage.

Emergency Call

Call an ambulance or doctor immediately and provide the following information calmly and rationally:

- Where did the accident occur?
- What happened?
- What type of injuries were sustained?

Finally, be ready to provide any additional information needed for rendering emergency services.

1.1.6 Accident Report

- Promptly report to a supervisor all accidents, near-accidents and potential hazards.
- Report all electrical shocks, even minor ones.

1.2 Data Protection and Confidentiality

Handling of Personal Information

This telephone exchange uses and processes personal information (call detail records, display messages, and customer data records, for instance).

Comply with all local and country-specific laws and regulations concerning use and protection of such information.

Information Protection laws are designed to prevent violation of individual privacy rights through misuse of personal data.

By safeguarding data against misuse during all stages of processing, information protection laws protects your rights as well as those of third parties

Guidelines for Siemens Employees

Siemens company policy and procedures require secure business practices and employee data confidentiality.

The following rules must be strictly followed in order to ensure compliance with job-related statutory requirements (be they company functions or outsourced maintenance and management). This serves to safeguard our customers' interests and provide additional personal protection.

Guidelines for Handling Information

A conscientious, responsible approach helps to protect and safeguard information:

- Make sure that only authorized personnel have access to customer information.
- Always use password assignment features; no exceptions allowed. Never disclose passwords to unauthorized personnel.
- Ensure that no unauthorized personnel are able to process (store, modify, transmit, override, delete) or make use of customer information.
- Block all access by unauthorized personnel to data such as backup disks or record printouts.
- See that all unnecessary recording media are completely destroyed and that no documents are stored or left in unsecured places.
- **Working together with the customer builds trust.**

1.3 Structure of this Service Manual

Introduction

This manual provides information about the HiPath 1100 Communications Systems.

This manual was designed to provide information in information mapping format. It is divided into sections and units that present, as clearly as possible, all steps required to perform specific tasks when operating the system. It makes it easy for technical personnel to find the information needed and learn it quickly.

Main sections of this Manual.

- Chapter 2, “System Data” provides a description of the HiPath 1100 system, technical information, and a list of relevant documentation.
- Chapter 3, “Modules” describes all the modules that comprise the HiPath 1100 system as well as their characteristics.
- Chapter 4, “Installation” provides information on how to setup and install the HiPath 1100, including recommendations and important notes.
- Chapter 5, “Telephones” describes Standard and System Telephones.
- Chapter 6, “Operation” describes the procedures for starting up the HiPath 1100.
- Chapter 7, “Configuring the system specifically for the client” lists all programming codes and their functions.
- Chapter 8, “Feature Access Codes” contains a summarized table of all the features of the HiPath 1100 system.

2 System Data

2.1 Overview

This manual describes the HiPath 1100 systems and their characteristics. Read all the chapters in this manual carefully. Only trained technical personnel should handle and service this system.

About this Chapter

This chapter covers the following topics:

Topic	Page
Introduction	2-1
Configurations	2-2
System Periphery	2-3
Limitations to System Expansion	2-5
Technical Data	2-8
Technical Standards and Compliance	2-10
Documentation List	2-12

2.2 Introduction

Power Systems

The HiPath 1150/1190 systems are designed to connect to TN-S and TN-C-S-type power systems that feature a PEN conductor divided in two: a ground or protective earth conductor (PE) and a neutral conductor (N). In the HiPath 1120 system, however, only the CND version uses a safety ground conductor (PE - Protective Earth).

Warning

Nonetheless, in both cases the shields for extensions and external lines must have a separate ground connection (≤ 10 Ω).

The HiPath 1100 systems are designed for residential, private or commercial use. Additional safety measures to prevent external interference may be required in industrial environments (For additional information see “Environmental Conditions,”Section 2.7.2).

2.3 HiPath 1100 Configurations

HiPath 1100 systems are designed to meet the requirements for a wide range of clients and are, therefore, offered in the following configurations:

- **HiPath 1120:** Wall-mount with basic configuration for 2 external lines, 8 extensions and 4 interfaces for system telephones (KS).
- **HiPath 1150:** Wall-mount with basic configuration for 2 external lines, 10 extensions and 8 interfaces for system telephones (KS).
- **The HiPath 1190** comes in two versions:
  - **HiPath 1190:** External cabinet with one MB, 2 backplanes, 3 power supplies units, and slots for installing up to 21 modules (expansion and option modules).
  - **HiPath 1190R:** Rackmount cabinet in a standard 19" rack with a MB (CPU), 2 backplanes, 3 power supplies units, and slots for installing up to 21 modules (expansion and option modules).

For information about country-specific versions please ask one of our distributors.

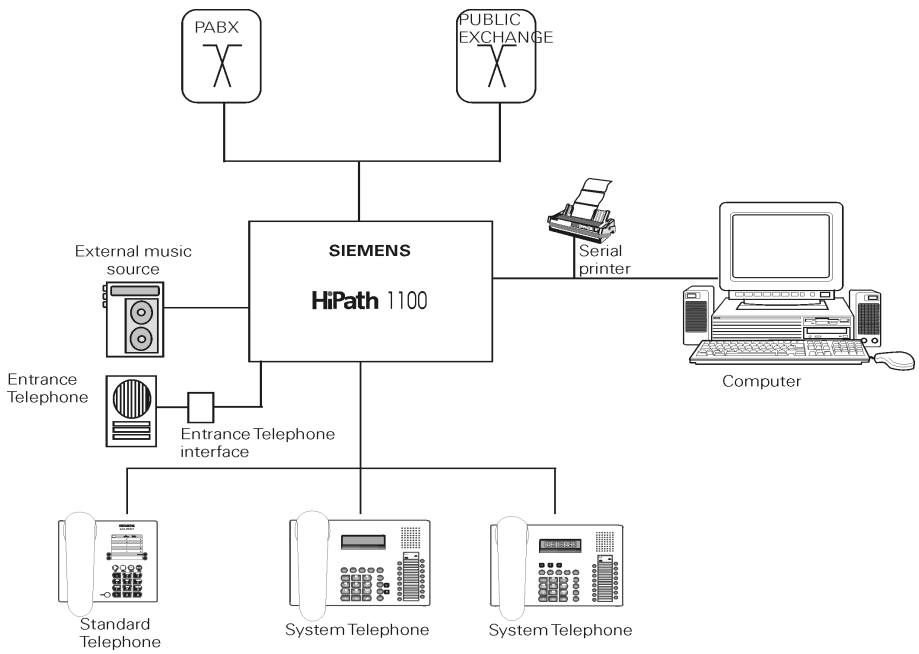


Figure 2-1 System Overview

2.4 HiPath 1100 System Periphery

- HiPath 1120

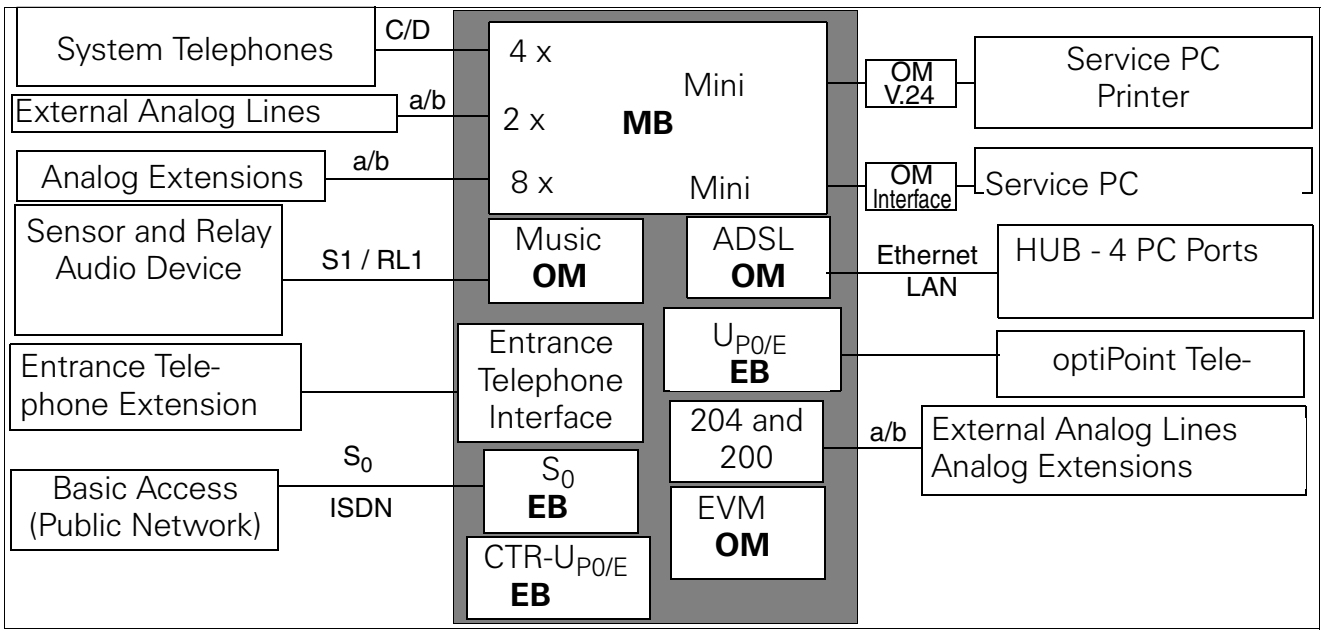


Figure 2-2 HiPath 1120 Periphery

- HiPath 1150

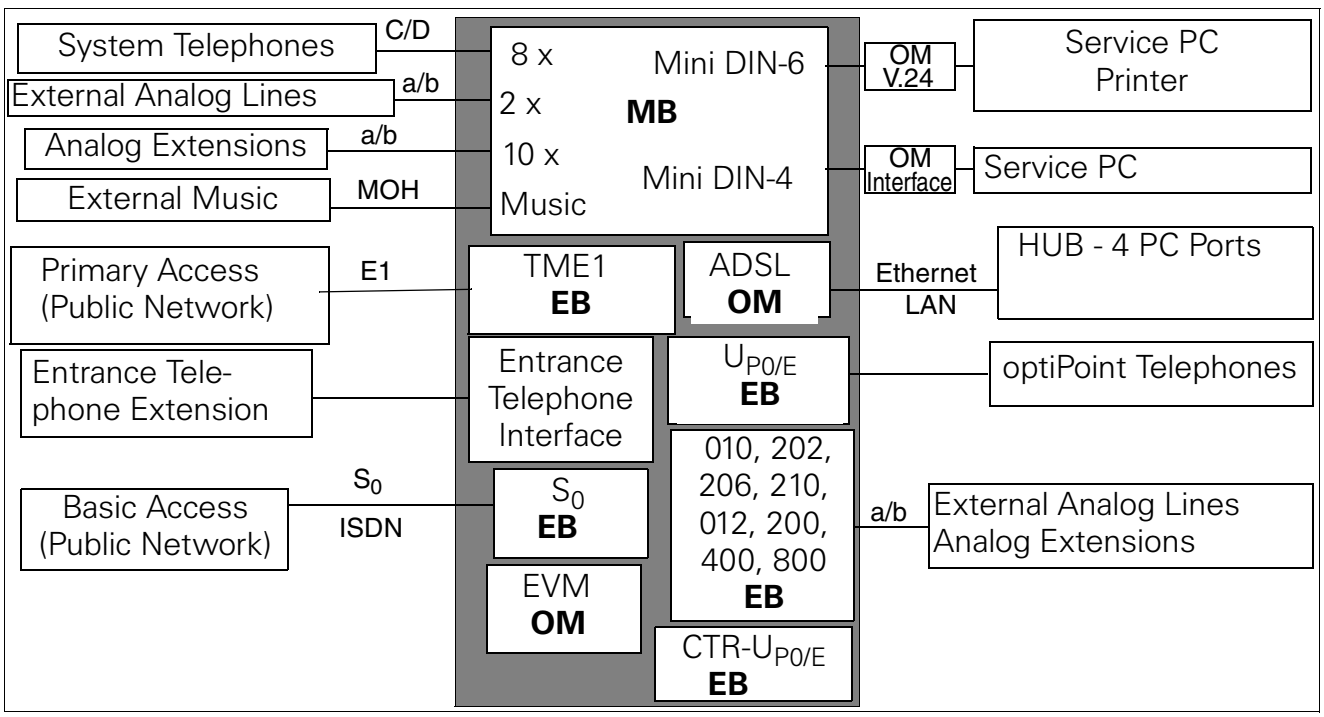


Figure 2-3 HiPath 1150 Periphery

- HiPath 1190

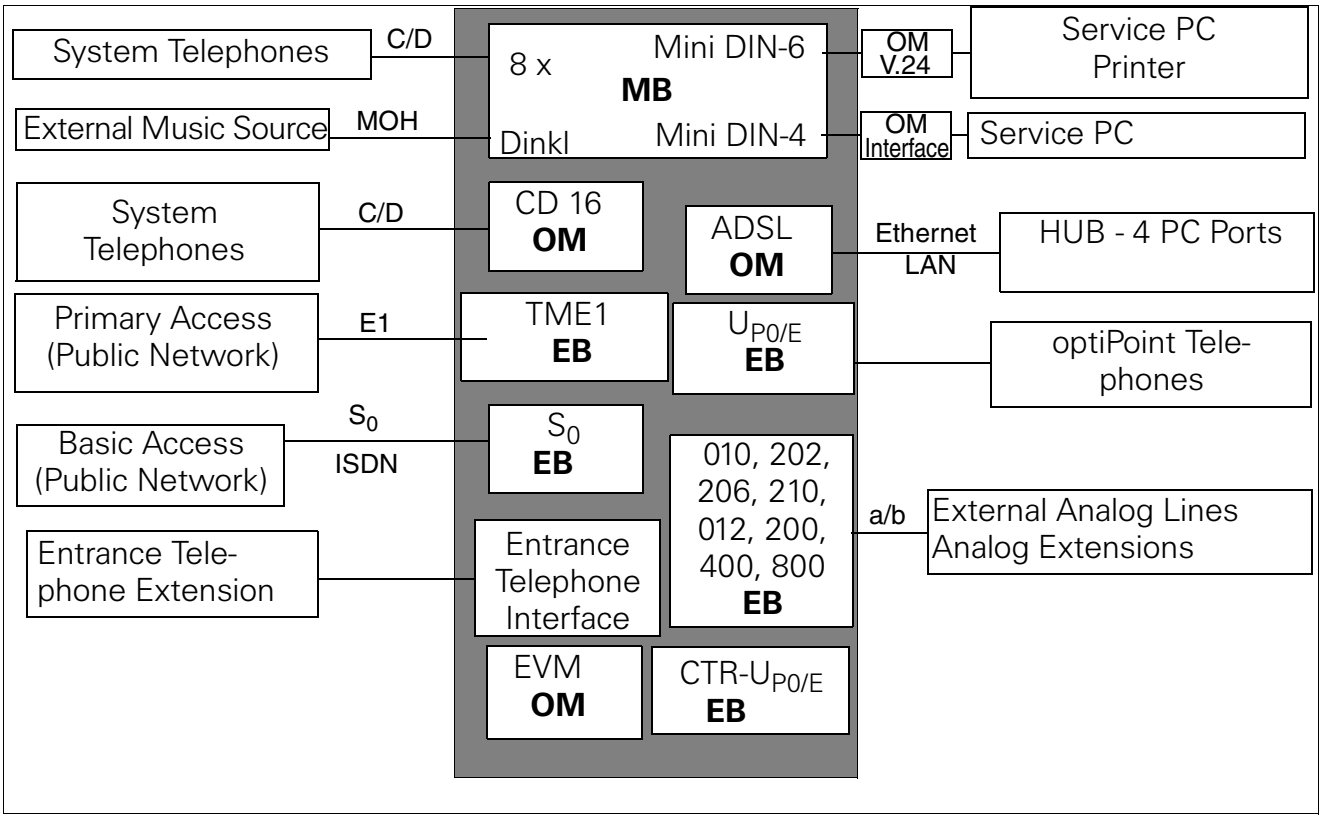


Figure 2-4 HiPath 1190 Periphery

2.5 Limitations to System Expansion

Standard Configuration:	**HiPath 1120**	**HiPath 1150**	**HiPath 1190**
External Analog Lines	2		0
Analog Extensions	8	10	
Fax/DID	8 channels		
System Telephone Interface (KS)*	4	8	
Expansion Modules:			
EB 010 (10 extensions)	0	4	14
EB 012 (12 extensions)	0	3	11
EB 202 (2 external lines and 2 extensions)	0	4	16
EB 204 (2 external lines and 4 extensions)	2	0	
EB 206 (2 external lines and 6 extensions)	0	4	16
EB 210 (2 external lines and 10 extensions)	0	4	11
EB 200 (2 external lines)	2	4	16
EB 400 (4 external lines)	0	3	8
EB 800 (8 external lines)	0	1	4
S_0 Module	1		2
TME1 Module	0	1	2
$U_{P0/E}$ Module (optiPoint): Limited to 8 interfaces	1	1 or 2	
CD 16 Module (KS)	0		1
Option Modules:**			
ADSL Module	1		
EVM Module	1		
Music Module	1	On Board	
TFE Entrance Telephone Interface	4		
Total System Capacity*:**			
Extensions (analog + digital)	23	89	143
External digital line with TME1/External digital line with S_0	0/2	20/10	45/20
External analog lines without TME1 or S_0 modules	6	16	32

* Each system telephone (KS) connected occupies one analog telephone slot.

** A S_0 and a TME1 module cannot be used simultaneously.
An ADSL module and a TME1 module cannot be used simultaneously on the HiPath 1150/1190.

*** When the maximum capability for external lines is exceeded due to the installation of EB, S_0 or TME1 modules, the system disables a number of external analog lines. The extensions slots, however, will continue to operate as usual.

Example 1: HiPath 1150
- Slot 0, MB 210,
- Slot 1, EB 210,
- Slot 3, TME1 - 20 channels

EB 210 external lines will not work but extensions will. This is because the system has capacity for a maximum of 22 external lines, which means there is no capacity for additional analog external lines.

Example 2: HiPath 1150
- Slot 0, MB 210
- Slot 3, TME1 = 20 external lines

In this case, there are 22 external lines at a maximum available on the system. This means there is no room for an additional EB module with an external analog line.
20 CAS external digital lines CA/S2+ 2 MB external analog lines = 22 external lines.
If an EB 200 was installed in Slot 1 or Slot 2 the module would not be operable, since it would exceed the system's maximum capacity for external lines.

Example 3: HiPath 1150
- Slot 0, MB 210
- Slot 3, TME1 = 10 external lines

WARNING: Disable channels in the TME1 Module and configure unused external lines as Vacant by turning the switch off then on again.
Overall, there are 12 external lines on the system. This means there are 4 additional external lines available before reaching the maximum capacity of 16 external lines.
An EB 400 could be used in Slot 1 or Slot 2.
If an EB 800 was installed on the switch, the entire module would be inoperable since it would exceed the system's maximum capacity for external lines.

Table 2-1 Specific limitations to system expansion

External analog line	Digital line - TME1 Module	Total
2	20	22
2	19	21
2	18	20
2	17	19
2	16	18
2	15	17
2	14	16
4	13	17
4	12	16
6	11	17
6	10	16
8	9	17
8	8	16
10	7	17
10	6	16
12	5	17

12	4	16
14	3	17
14	2	16
16	1	17
16	0	16

Table 2-2 Possible combinations of external analog and digital lines (TME1 Module)

HiPath 1190 Note

- The HiPath 1190 system with a single rack supports up to 80 extensions
- TME 1 Module
  It must only be mounted in slots 1 and 11. The system must thus have both racks mounted in order to run two modules.
  Within the maximum limit of 32 external analog lines or 45 external digital lines and 140 extensions, the system may consist of, for example:

Slot	Modules
1 and 2	2 x EB 800, 2 x EB 012 or 2 x EB 210 or 1 x TME1 in slot 1 (in this case slot 2 must remain free).
3, 4 and 14	Module configuration for extensions or external lines must not exceed 32 ports (e.g., 3 x EB 010 or 2 x EB 012 or 2 x EB 210).
5, 6 and 7	Module configuration for extensions or external lines must not exceed 32 ports.
8, 9 and 10	Module configuration for extensions or external lines must not exceed 32 ports.
11, 12 and 13	Module configuration for extensions or external lines must not exceed 32 ports or 1 x TME1 in slot 11, and 1 x EB 010, EB 012 or EB 210 in slot 13 (in this case slot 12 must remain free).
15, 16 and 17	Module configuration for extensions or external lines must not exceed 32 ports.
18, 19 and 20	Module configuration for extensions or external lines must not exceed 32 ports.

Table 2-3 Examples of HiPath 1190 System Configurations

Each of the system's Highway supports up to 32 ports. For example, Highway 2 (slots 3, 4, and 14) can accommodate two EB 800 and one EB 206, totalling 24 ports. However, for Highway 1 (Slots 1 and 2), when a TME1 module is placed in Slot 1 (totalling 30 ports), Slot 2 must remain free (except for an ASDL module, which can be installed in Slot 2).

Table 2-4 shows the slots and their Highways.

Slot	11	12	13	14	15	16	17	18	19	20
Highways										
2				X						
5	X	X	X							
6					X	X	X			
7								X	X	X
Slot	01	02	03	04	05	06	07	08	09	10
Highways										
1	X	X								
2			X	X						
3					X	X	X			
4								X	X	X

Table 2-4 Distribution of modules on the HiPath 1190 backplanes

2.6 Technical Data

Element	HiPath 1120	HiPath 1150	HiPath 1190
Standard Cabinet Size			
Length	14.17" (360 mm)	14.17" (470 mm)	14.17" (420 mm)
Depth	14.17" (288 mm)	14.17" (370 mm)	14.17" (394 mm)
Height	2.53" (64.4 mm)	14.17" (100 mm)	14.17" (498 mm)
Weight	2.64 lb (1.2 kg)	2.64 lb (4.25 kg)	49.60 lb (22.5 kg)
Electrical Specifications for Power Supply Units (PSUs)			
Power Requirements (Input)	220V / 127mA 127V / 331mA 110V / 381mA	110 - 230V, Full range / 1.5A	
Operation Frequency	50/60Hz	50/60Hz	

Element	HiPath 1120	HiPath 1150	HiPath 1190
Rated Voltage (Output)	U1: 8 Vrms U2: 23 Vrms	5.1 VDC; . 26.4 VDC; .	
Call Voltage	U3: 40 V_{rms}/60Hz 65 V_{rms}/20Hz (CND) 65 V_{rms}/25Hz (SPA) 42 V_{rms}/25Hz (RSA)	50 V_{AC} + 97 V_{DC} / 0.13A - 25Hz 42 V_{AC} + 85.8 V_{DC} / 0.13A - 25Hz (RSA)	
Dialing Modes for Calls to other Public or Private Exchanges:			
• **MF Transmission Level:**			
Low Group*	-11 dBm		
High Group*	-9 dBm		
Pre-Emphasis	2 dB		
Pulse Duration**	90ms min.		
Interdigit Pause**	90ms min.		
• **DP (Dial Pulse):**			
Pulse/Pause Ratio**	2:1 (approximately 70:30ms = 10 Hz)		
Interdigit Pause**	800ms		
Open loop isolation resistance between a/b or a/ ground or b/ ground	> 10MΩ		
Closed loop line resistance/ continuous loop current	Complies with national requirements/standards		
Incoming Call Detection	> $9V_{RMS}$		

*〉 Values vary according to the country. The values shown are specifically for Brazil.
**〉 Values depend on the country settings, which are configurable. The values shown are default values for Brazil.

Table 2-5 Technical Data

Values shown are approximate. When making connections, consider the specific level of tolerance that applies.

2.7 Technical Standards and Compliance

Compliance	Standard	Note
Electrical Safety	EN60950 IEC 60950 UL 60950-1	
Environmental Conditions	IEC 721	*
Power Surge	IEC61000-4-5 (IEC 801-5) TIA-968-A	Level 3
Fast Transients	IEC61000-4-4 (IEC 801-4)	Level 3
Electrostatic Discharge	IEC61000-4-2 (IEC 801-2)	Air - Level 3 (8kV) Contact - Level 2 (4kV)

*〉 Weather conditions: Operation 3K3 Transportation 2K4 Storage 1K3.
Mechanical: Operation 3M3 Transportation 2M2 Storage 1M2.

Table 2-6 Standards and Compliance

2.7.1 International Safety Standard

- IEC 60950

2.7.2 Environmental Conditions

	Operation	Transportation	Storage
Air Temperature (^{o}F)	+5 to +30	-25 to +70	-5 to +45
Relative Humidity	5% to 85 %	95%	5% to 95%

Table 2-7 Environmental Conditions

Servicing Conditions (Mechanical)

- This system was essentially designed for installation at a fixed location.

Warning

- To avoid condensation when shipping the system in extremely low temperatures keep the equipment in its packaging until it reaches room temperature. Proceed thereafter with the installation (acceptable temperature range: 45.5°F (7.5°C)/30 min)
- Do not expose the equipment to direct sunlight or place it in the proximity of any heat sources (to avoid a localized increase of temperature)
- Make sure the installation area is dry. During system operation avoid any conditions that may cause condensation.
- Forced ventilation is not required.
- Do not block the natural flow of air around the equipment.
- Do not expose the equipment to the weather.

2.8 Documentation List

Documentation	**Order Number**
User Manual - optiPoint 500 System Telephone Adv, Std, Basic, Econ and Entry	A31003-K1160-B801-*-7619
User Manual - Profiset 3030 and E822 ST System Telephones	A31003-K1160-B802-*-7619
User Manual - DTMF Telephones and Pulse Telephones	A31003-K1160-B803-*-7619
Programming Manual - DTMF Telephones	A31003-K1160-B804-*-7619
Quick Reference Guide - DTMF Telephones and Pulse Telephones	A31003-K1160-B805-*-7619
Attendant Console - Profiset 3030 and E822 ST System Telephones	A31003-K1160-B806-*-7619
User Manual - optiPoint 500 System Telephone Adv, Std, Basic, Econ and Entry	A31003-K1160-B807-*-7619
Quick Reference Guide - Profiset 3030 and E822 ST System Telephones	A31003-K1160-B808-*-7619
Attendant Console - optiPoint 500 System Telephone Adv, Std, Basic, Econ and Entry	A31003-K1160-B809-*-7619
Service Manual	A31003-K1160-S100-*-7620
Options (Brazil)	
Interaction Center Smart User Manual	A30808-X5226-E175-*-7618
TAC Smart Quick Reference Guide	A30808-X5226-V103-*-7619

Table 2-8 Documentation List for HiPath 1100

3 Modules

3.1 Overview

About this Chapter

This chapter covers the following topics:

Topic	Page
Abbreviations	3-2
List of Modules	3-2
Modules/ Components	
• Motherboard (MB)	3-8
• Expansion Modules (EB)	3-19
• S0 Module	3-29
• TME1 Module	3-33
• UP0/E Module and CTR UP0/E Module	3-42
Option Modules	
• ADSL Module	3-45
• EVM Module	3-49
• CD 16 Module	3-51
• Music Module	3-52
General Modules/Components	
• Power Supply Unit (PSU)	3-54
• Main Distribution Frame	3-59
• Backplane	3-61
• Entrance Telephone Interface	3-62
• V.24 Adapter Cable	3-65
• USB adapter cable	3-67
• TME1 Serial Cable	3-68
• TME1 Coax Cable	3-69

3.2 Abbreviations

BRA	Brazil
IM	International Market
RSA	South Africa
CND	Canada
ARG	Argentina
SPA	Spain
IND	India
RUS	Russia
UK	United Kingdom
AUS	Australia

Table 3-1 Abbreviations

3.3 List of Modules

List of Modules/Components - HiPath 1120

Module / Component	Reference
BOX	
HiPath 1120	S30817-U857-B401-* (IM) :110V S30817-U857-A401-* (IM) :220V S30817-U857-C401-* (ARG) S30817-U857-A403-* (CND) S30817-U857-A412-* (SPA) S30817-U857-A464-* (IND) S30817-U857-A497-* (RSA) S30817-U857-A408-* (UK) S30817-U857-A400-* (AUS)
Motherboard (MB)	
MB	S30817-Q845-A401-* (IM) S30817-Q845-A464-* (IND) S30817-Q845-A403-* (CND) S30817-Q845-A497-* (RSA)

Module / Component	Reference
Expansion Module	
EB 204	S30817-H844-A401-* (IM) S30817-H84 4-A403-* (CND) S30817-H844-A464-* (IND) S30817-H844-A497-* (RSA)
EB 200	S30817-H844-B401-* (IM) S30817-H844-B403-* (CND) S30817-H844-B464-* (IND) S30817-H844-B497-* (RSA)
S0 Module (2 ports) **S0 Module (1 port)**	S30817-H843-A301-* S30817-H843-B301-*
$U_{P0/E}$Module (4 ports) **$U_{P0/E}$Module (2 ports)**	S30817-H863-A401-* (IM) S30817-H863-B401-* (IM)
CTR $U_{P0/E}$ Module	S30817-Q862-A401-*
Option Modules (OM)	
EVM Module	S30817-Q6345-X-*
ADSL Module	S30817-H842-A301-* (IM) S30817-H842-A303-* (CND)
Music Module	S30817-H860-A301-* (IM)
Entrance Telephone Interface	See Note 1
General Components	
V.24 Adapter Cable	S30122-X5468-X005-*
USB adapter cable	S30817-K861-A301-*
Impedance Adapter (Balun) - TME1	S30122-X7357-X-*
Power Supply Unit (PSU)	110/127V: S30122-X8009-X100-* (IM) S30122-X8009-X007-* (CND) 220V: S30122-X7646-X-* (IM) S30122-X7646-X200-* (ARG/AUS) S30122-X8009-X005-* (SPA/RUS) S30122-X8009-X006-* (RSA) S30122-X7646-X300-* (UK)
Interconnect cable (flat cable)- C/Ferrite	C39195-A7700-B6
Interconnect cable (flat cable)- S/Ferrite	C39195-Z7001-C95
Interconnect Cable C95 ferrite	C39022-Z7000-C15

Module / Component	Reference
Interconnect cable (flat cable)- $U_{P0/E}$	C39195-Z7001-C96
Additional Supply - $U_{P0/E}$	C39280-Z4-C71
Power/Connection Cable	C39195-A7700-B1 (CND)
ADSL connection cable (included with the ADSL Module)	C39195-A9700-B538-* (CND)

*) Module/Component Version.

Table 3-2 List of Modules/Components - HiPath 1120

Note 1: See “Entrance Telephone Interface” on page 3-62
TFE Entrance Telephone Interface S30122-K7696-T313-* with amplifier)
TFE Entrance Telephone Interface S30817-K930-A300-* without amplifier)
Entrance Telephone Interface, Brazil, S30817-Q936-C282

List of Modules/Components - HiPath 1150/1190/1190R

Module / Component	Reference
BOX	
HiPath 1150	S30817-U853-A401-* (IM) S30817-U853-A497-* (RSA) S30817-U853-A464-* (IND) S30817-U853-A400-* (AUS)
HiPath 1190	Full (2 shelves) S30777-U770-A401-* (IM) S30777-U770-A464-* (IND) S30777-U770-A400-* (AUS) S30777-U770-A497-* (RSA)
	Medium (1 shelf) S30777-U770-B401-* (IM) S30777-U770-B464-* (IND) S30777-U770-B400-* (AUS) S30777-U770-B497-* (RSA)

Module / Component	Reference
HiPath 1190R	Full (2 shelves) S30777-U770-C401-* (IM) S30777-U770-C464-* (IND) S30777-U770-C400-* (AUS) S30777-U770-C497-* (RSA)
	Medium (1 shelf) S30777-U770-D401-* (IM) S30777-U770-D464-* (IND) S30777-U770-D400-* (AUS) S30777-U770-D497-* (RSA)
Expansion Kit HiPath 1190	
Power Supplies, Cables and Backplanes	S30777-H770-B497-* (RSA) S30777-H770-B401-* (IM)
Motherboard (MB) HiPath 1150	
MB	S30817-Q848-B401-* (IM) S30817-Q848-B464-* (IND) S30817-Q848-B497-* (RSA)
MB HiPath 1190	
MB	S30817-Q856-A401-* (IM) S30817-Q856-A464-* (IND)
Expansion Modules	
EB 010	S30817-H858-B301-* (IM) S30817-H858-B397-* (RSA)
EB 012 (HiPath 1150 only)	S30817-H858-A301-* (IM) S30817-H858-A397-* (RSA)
EB 202	S30817-H847-C301-* (IM) S30817-H847-C364-* (IND) S30817-H847-C397-* (RSA)
EB 206	S30817-H847-B301-* (IM) S30817-H847-B364-* (IND) S30817-H847-B397-* (RSA)
EB 210	S30817-H847-A301-* (IM) S30817-H847-A364-* (IND) S30817-H847-A397-* (RSA)
EB 200	S30817-H850-C301-* (IM) S30817-H850-C364-* (IND) S30817-H850-C397-* (RSA)

Module / Component	Reference
EB 400	S30817-H850-B301-* (IM) S30817-H850-B364-* (IND) S30817-H850-B397-* (RSA)
EB 800	S30817-H850-A301-* (IM) S30817-H850-A364-* (IND) S30817-H850-A397-* (RSA)
S0 Module (5 ports) **S0 Module (2 ports)**	S30817-H851-A301-* S30817-H851-B301-*
TME1 Module	S30817-H846-A282-*
$U_{P0/E}$Module (8 ports) **$U_{P0/E}$Module (4 ports)** **$U_{P0/E}$Module (2 ports)**	S30817-H864-A401-* S30817-H864-B401-* S30817-H864-C401-*
CTR $U_{P0/E\ MODULE}$	S30817-Q862-A401-*
Option Modules (OM)	
ADSL Module	S30817-H849-A282-*
EVM Module	S30817-Q6945-X-*
Entrance Telephone Interface	See Note 2
General Components	
Coax Cable for TME1 Module	C39195-A9700-B531-*
TME1 Serial Cable	C39195-A9700-B532-*
V.24 Adapter Cable	S30122-X5468-X005-*
Impedance Adapter (Balun)	S30122-X7357-X-*
USB adapter cable	S30817-K861-A301-*
Interconnect Cable, 250 mm (included with ADSL module)	V42405-J1-A159
Power Cable	C39195-Z7001-C11 C39195-Z7001-C12

Module / Component	Reference
Power Supply Unit (PSU)	
HiPath 1150	S30122-K7642-X10-* (IM, AUS and IND) S30122-K7642-X30-* (RSA)
HiPath 1190	S30122-K7642-X200-* (IM, AUS and IND) S30122-K7642-X300-* (RSA)
Backplane	
HiPath 1150	S30817-Q853-A401-*
HiPath 1190 (Backplane 1) **HiPath 1190 (Backplane 2)**	S30817-Q854-A401-* S30817-Q854-B401-*

Table 3-3 List of Modules/Components - HiPath 1150/1190/1190R

Note 1: HiPath 1100 For more details on the system's total capacity see Table 2-1 on page 2-6 "Specific Limitations to System Expansion."

Note 2: See "Entrance Telephone Interface" on page 3-62

- TFE Entrance Telephone Interface S30122-K7696-T313-*(with an amplifier)
- TFE Entrance Telephone Interface S30817-K930-A300-*(without an amplifier)
- TFE Door Opener Interface S30817-Q936-C282-* (Brazil)

Warning

Before inserting or removing any of the modules on the HiPath 1100, make sure power is turned off.

3.4 Motherboard (MB)

Introduction

The MB is the main board for the HiPath 1100 system. The MB provides all functions required for PABX operation.

Functions

- CLIP - external calling number identification (service must be provided by local carrier)
- Central Processing Unit (CPU)
- DTMF generator and detector
- Conference circuits
- Tone generators
- Music source
- Memory (software + client's data base)
- Digital switch
- Signaling
- Fax/DID.

Warning
FAILURE TO REPLACE BATTERY WITH SPECIFIED BATTERY TYPE CAN CAUSE RISK OF EXPLOSION. DISCARD USED BATTERIES ACCORDING TO INSTRUCTIONS.

3.4.1 HiPath 1120

Outputs/Inputs

- 8 interfaces for standard telephones with 4 for system telephones
- 2 external analog lines
- Mini DIN-6 connector for V.24 adapter
- Mini DIN-4 connector for USB adapter
- Power supply
- Baby Board VCC Module;

- ADSL Module;
- Music Module;
- Power Outage: First line with first extension and second line with second extension.

MB Interfaces

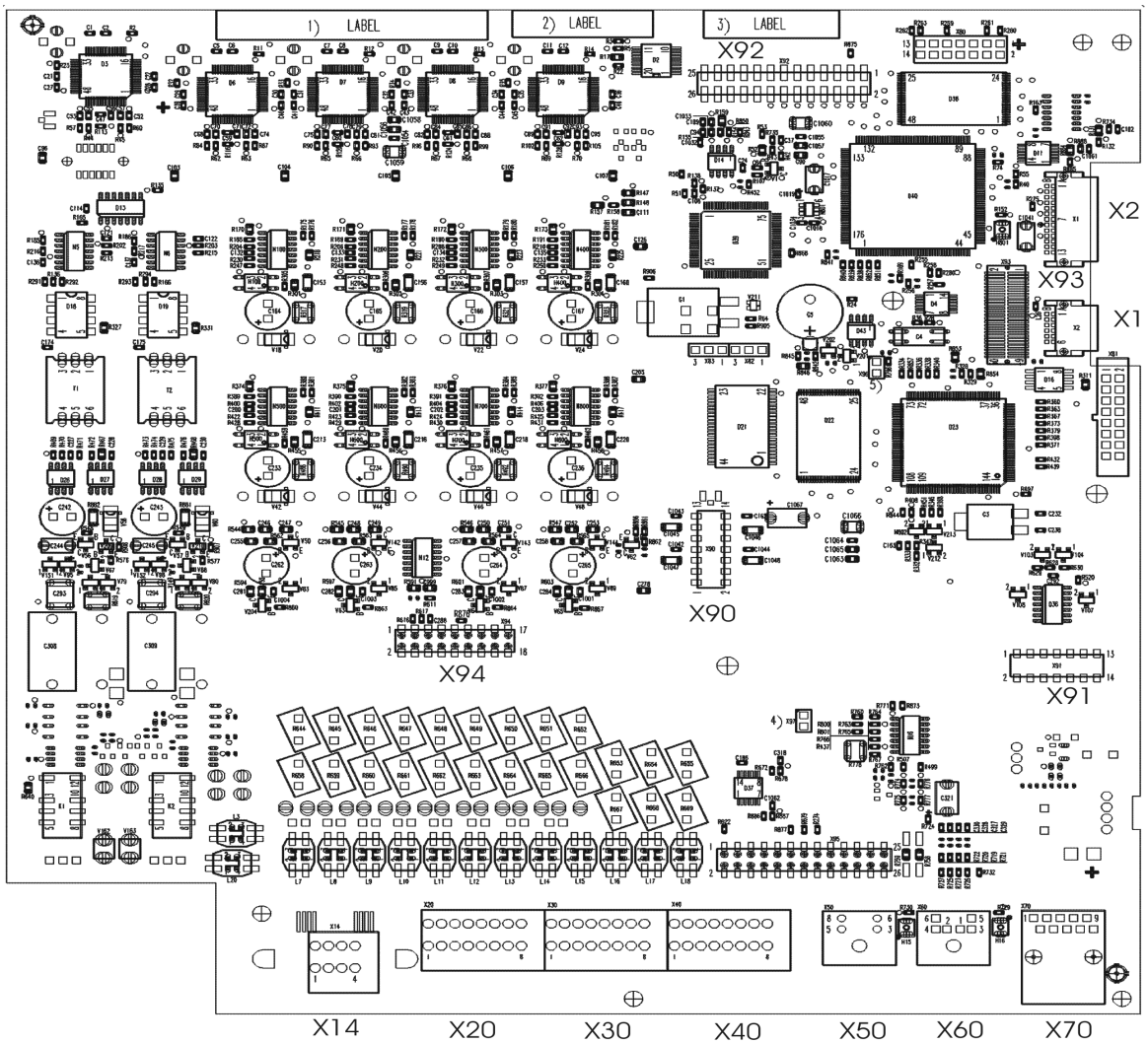


Figure 3-1 HiPath 1120's MB

Motherboard Connector Assignments - HiPath 1120

Contact	X14 Connector	X20 Connector	X30 Connector	X40 Connector	
1	a1 - trunk 1	a1 - extension 1	a5 - extension 5	C-interface 1	
2	b1 - trunk 1	b1 - extension 1	b5 - extension 5	D-interface 1	
3	a2 - trunk 2	a2 - extension 2	a6 - extension 6	C-interface 2	
4	b2 - trunk 2	b2 - extension 2	b6 - extension 6	D-interface 2	
5		a3 - extension 3	a7 - extension 7	C-interface 3	
6		b3 - extension 3	b7 - extension 7	D-interface 3	
7		a4 - extension 4	a8 - extension 8	C-interface 4	
8		b4 - extension 4	b8 - extension 8	D-interface 4	
	X1 Connector	**X2 Connector**	**X50 Connector**	**X60 Connector**	**X70 Connector**
	Ribbon Cable for Modules	Additional ribbon cable for EB-$U_{P0/E}$	USB Interface	V.24 serial interface	Power Supply Unit (PSU)
	X90 and X91 Connectors	**X92 Connector**	**X93 Connector**	**X94 Connector**	**X95 Connector**
	For VCC Module	For EVM Module	CTR $U_{P0/E}$	For Music Module	For ADSL Module

CND Version

Outputs/Inputs

- 8 interfaces for standard telephones with 4 for system telephones
- 2 external analog lines
- Mini DIN-6 connector for V.24 adapter
- Mini DIN-4 connector for USB adapter
- Power supply
- Baby Board VCC Module;
- ADSL Module;
- Music Module;

- Power connection
- Power Outage: First line with first extension and second line with second extension

MB Interfaces

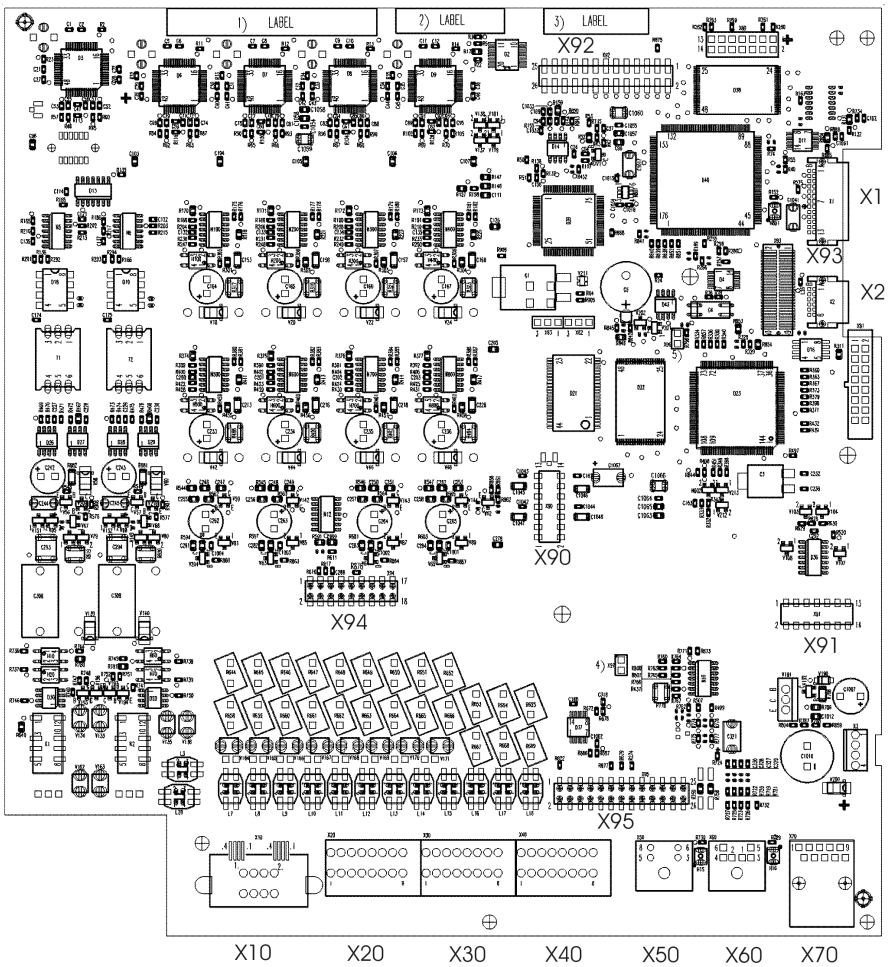


Figure 3-2 HiPath 1120 - CND MB

MB connector assignments (HiPath 1120 - CND)

Contact	X10 Connector	X20 Connector	X30 Connector	X40 Connector	
1	trunk 1	a1 - extension 1	a5 - extension 5	C-interface 1	
2	trunk 2	b1 - extension 1	b5 - extension 5	D-interface 1	
3		a2 - extension 2	a6 - extension 6	C-interface 2	
4		b2 - extension 2	b6 - extension 6	D-interface 2	
5		a3 - extension 3	a7 - extension 7	C-interface 3	
6		b3 - extension 3	b7 - extension 7	D-interface 3	**X50 Connector**
7		a4 - extension 4	a8 - extension 8	C-interface 4	USB Interface
8		b4 - extension 4	b8 - extension 8	D-interface 4	
	X1 Connector	**X2 Connector**	**X3 Connector**	**X60 Connector**	**X70 Connector**
	Ribbon Cable for Modules	Additional ribbon cable for EB-$U_{P0/E}$	Power for EBs	V.24 serial interface	Power Supply Unit (PSU)
	X90 and X91 Connectors	**X92 Connector**	**X93 Connector**	**X94 Connector**	**X95 Connector**
	For VCC Module	For EVM Module	CTR $U_{P0/E}$	For Music Module	For ADSL Module

Table 3-4 HiPath 1120 MB connector assignments - CND

Baby Board VCC Module Interface

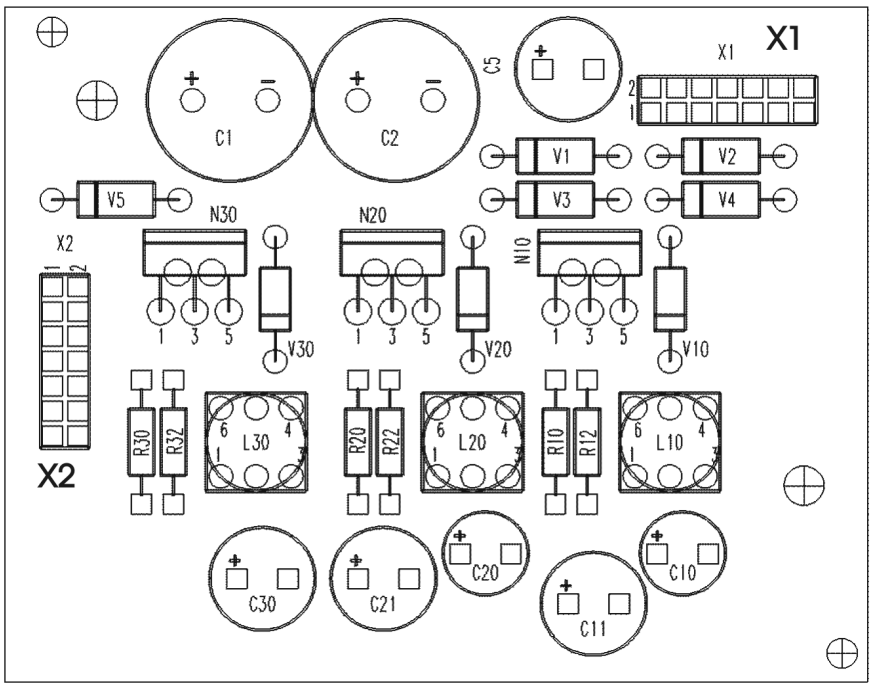


Figure 3-3 HiPath 1120 Baby Board VCC Module

Baby Board VCC Module Connector Assignments

X1 and X2 Connectors
Connects to MB through a pin connector

Table 3-5 Baby Board VCC Module Connectors HiPath 1120

3.4.2 HiPath 1150

Outputs/Inputs

- 10 analog interfaces for extensions
- 2 external analog lines
- 8 interfaces for system telephones (C/D)
- Mini DIN-6 connector for V.24 adapter
- Mini DIN-4 connector for USB adapter
- Connections for external music source

- Power supply
- Connection for backplane
- Power Outage: First line with first extension and second line with second extension

MB Interfaces

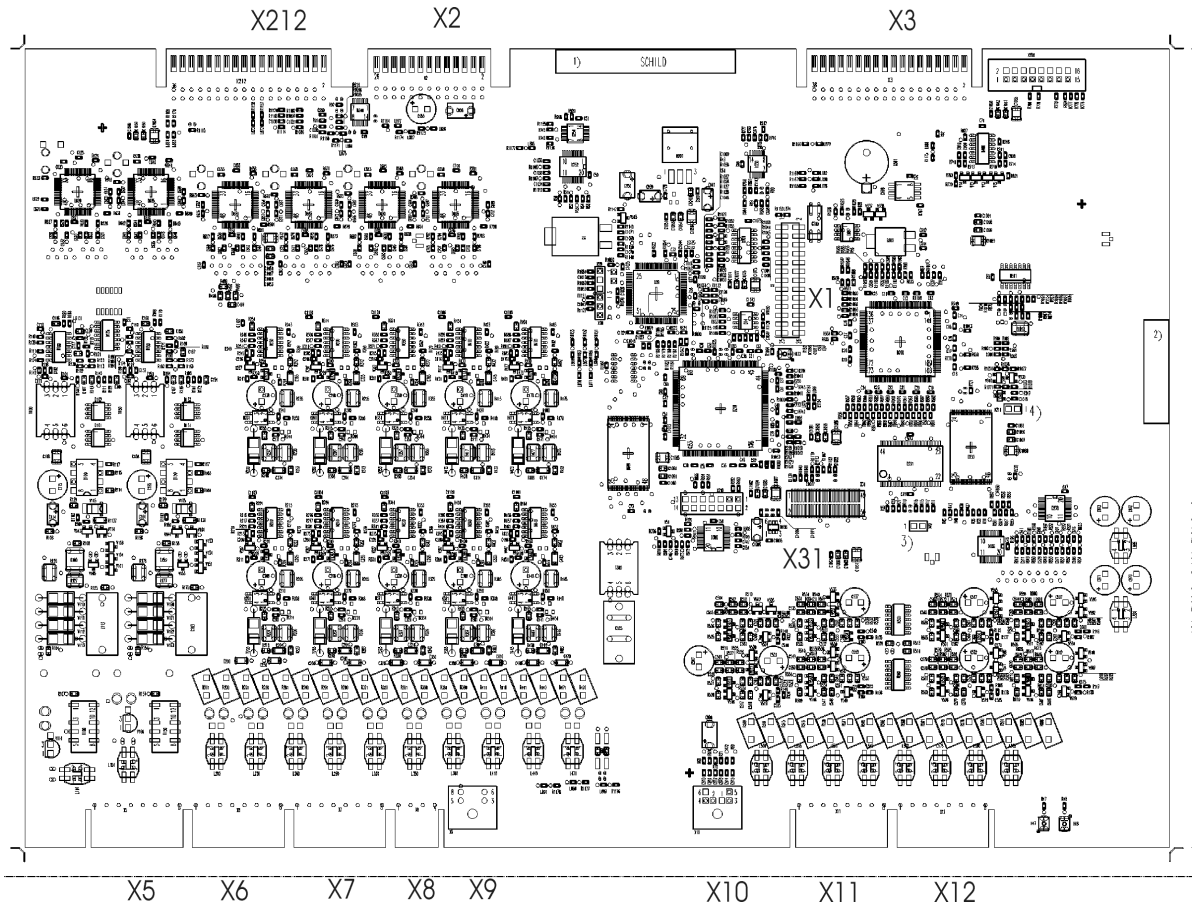


Figure 3-4 Overview of the HiPath 1150 MB

MB Connector Assignments (HiPath 1150)

Contact	X5 Connector	X6 Connector	X7 Connector	X8 Connector	X11 Connector	X12 Connector
1	a1 - trunk 1	a3 - extension 3	a7 - extension 7	--	C-interface 1	C-interface 5
2	b1 - trunk 1	b3 - extension 3	b7 - extension 7	--	D-interface 1	D-interface 5
3	a2 - trunk 2	a4 - extension 4	a8 - extension 8	Music - A wire	C-interface 2	C-interface 6
4	b2 - trunk 2	b4 - extension 4	b8 - extension 8	Music - B wire	D-interface 2	D-interface 6
5	a1 - extension 1	a5 - extension 5	a9 - extension 9		C-interface 3	C-interface 7
6	b1 - extension 1	b5 - extension 5	b9 - extension 9		D-interface 3	D-interface 7
7	a2 - extension 2	a6 - extension 6	a10 - extension 10		C-interface 4	C-interface 8
8	b2 - extension 2	b6 - extension 6	b10 - extension 10		D-interface 4	D-interface 8
	X212 Connector	**X2 Connector**	**X3 Connector**	**X1 Connector**	**X9 Connector**	**X10 Connector**
	Backplane, slot 1 and 2	Power supply (PSU)	Backplane Slot 3 and 4	CTR-$U_{P0/E}$ MODULE	USB Interface	V.24 serial Interface
	X31 Connector					
	EVM Module					

Table 3-6 HiPath 1150 Motherboard Connector Assignments

3.4.3 HiPath 1190/1190R

Outputs/Inputs

- 8 interfaces for system telephones (C/D)
- Connection for external music source and GND

- Mini DIN-6 connector for V.24 adapter
- Mini DIN-4 connector for USB adapter
- Connection for backplane

MB Interfaces

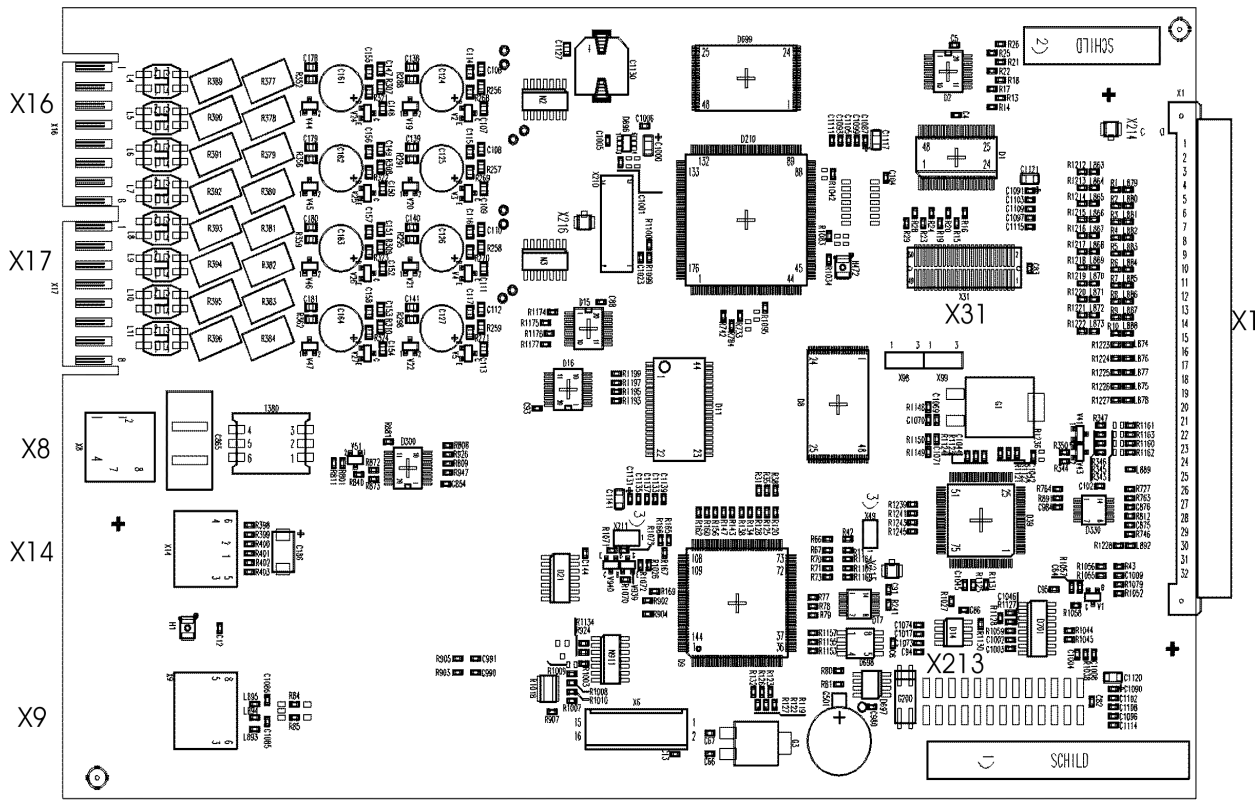


Figure 3-5 Overview of the HiPath 1190 MB

MB Connector Assignments (HiPath 1190)

Contact	X16 Connector	X17 Connector	X8 Connector		
1	C-interface 1	C-interface 5	Music - A wire		
2	D-interface 1	D-interface 5	Music - A wire		
3	C-interface 2	C-interface 6	Music - B wire		
4	D-interface 2	D-interface 6	Music - B wire		
5	C-interface 3	C-interface 7			
6	D-interface 3	D-interface 7			
7	C-interface 4	C-interface 8			
8	D-interface 4	D-interface 8			
	X1 Connector	**X9 Connector**	**X31 Connector**	**X14 Connector**	**X213 Connector**
	Backplane	USB Interface	CTR-$U_{P0/E}$ MODULE	V.24 serial Interface	EVM Module

Table 3-7 HiPath 1190 Motherboard Connector Assignments

3.5 Expansion Modules (EB)

Introduction

These modules consist of extensions and external analog lines for expanding the number of analog interfaces (a/b) for standard telephones, analog trunks and additional equipment (TFE interface, and others).

Some modules may have only trunks, trunks and extensions, or only extensions. For trunks that have trunks and extensions in the event there is a **power outage** one of the circuits can switch existing trunks to their appropriate extension slots.

3.5.1 HiPath 1120

Capacity

- 200 - 2 external analog lines
- 204 - 2 external analog lines and 4 analog extensions.

EB 200 Expansion Module

Interfaces

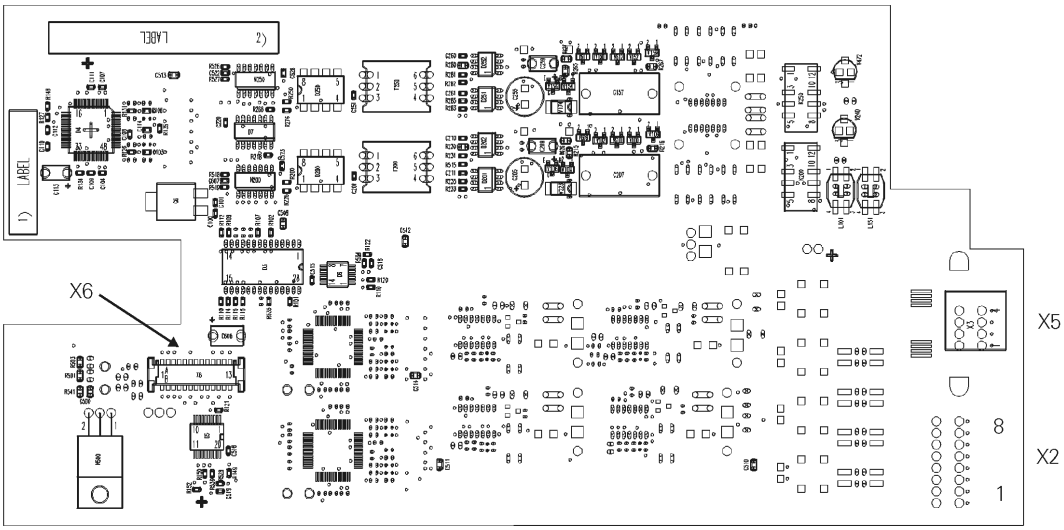


Figure 3-6 EB 200 Module Overview

Figure 3-6 shows the distribution of extensions and external lines associated with the EB 200 module connectors.

EB 200 Connector Assignments

Contact	X6 Connector	X5 Connector
1	Connects to the MB through an interconnect cable (flat cable)	a1 - external line 1
2		b1 - external line 1
3		a2 - external line 2
4		b2 - external line 2

Table 3-8 EB 200 Connector Assignments

EB 204 Expansion Module

Interfaces

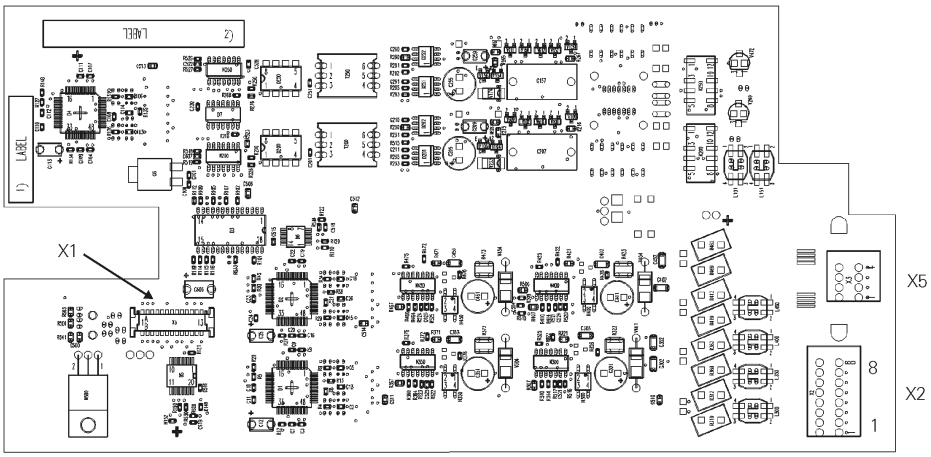


Figure 3-7 EB 204 Module Overview

Figure 3-7 shows the distribution of extensions and external lines associated with the EB 204 module connectors.

EB 204 Connector Assignments

Contact	X1 Connector	X2 Connector	X5 Connector
1	Connects to the MB through an interconnect cable (flat cable)	a1 - extension 1	a1 - external line 1
2		b1 - extension 1	b1 - external line 1
3		a2 - extension 1	a2 - external line 2
4		b2 - extension 2	b2 - external line 2
5		a3 - extension 3	
6		b3 - extension 3	
7		a4 - extension 4	
8		b4 - extension 4	

Table 3-9 EB 204 Connector Assignments

CND Version

EB 200 Expansion Module

Interfaces

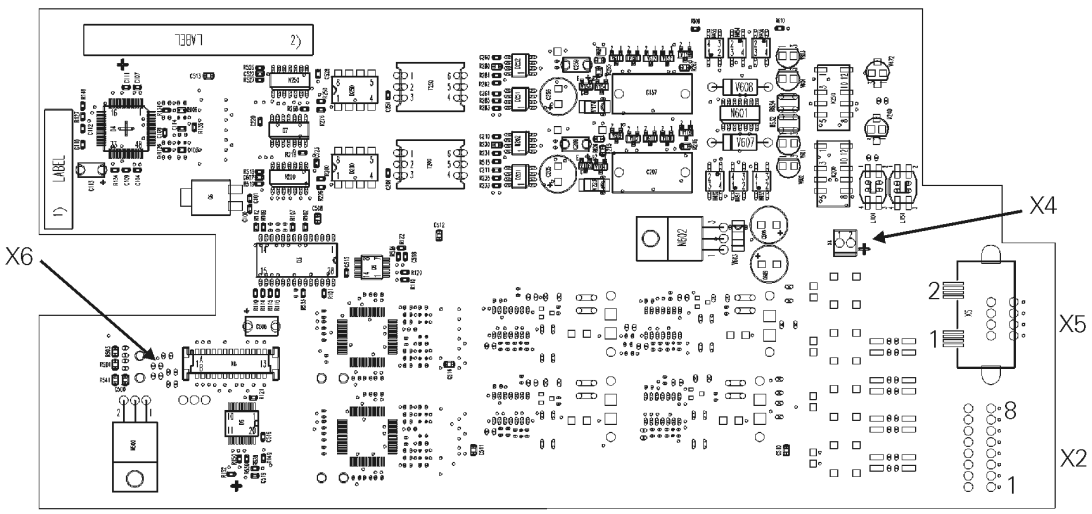


Figure 3-8 EB 200 - CND Module Overview

Figure 3-8 shows the distribution of extensions and external lines associated with the EB 200 module connectors.

EB 200 Connector Assignments (CND)

Contact	X4 Connector	X6 Connector	X5 Connector
1	Connects to MB through a power/connection cable	Connects to the MB through an interconnect cable (flat cable)	external line 1
2			external line 2

Table 3-10 EB 200 - CND Connector Assignments

EB 204 Expansion Module

Interfaces

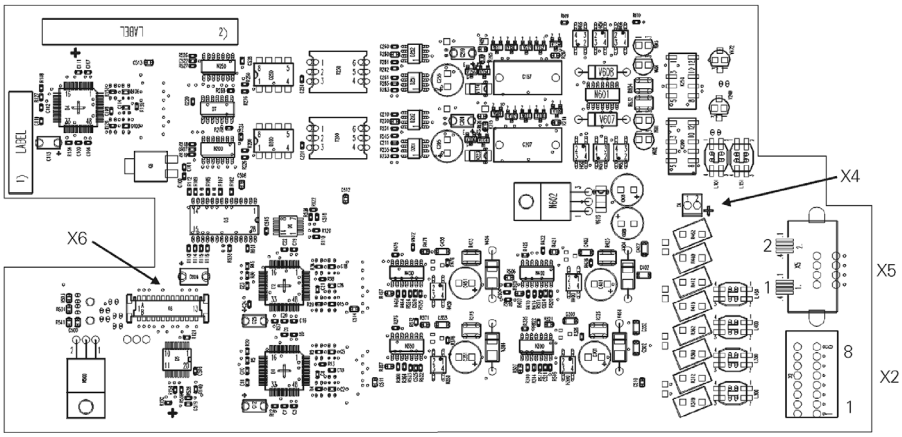


Figure 3-9 EB 204 - CND Module Overview

Figure 3-9 shows the distribution of extensions and external lines associated with the EB 204 module connectors.

EB 204 Connector Assignments (CND)

Contact	X4 Connector	X6 Connector	X2 Connector	X5 Connector
1	Connects to MB through a power/ connection cable	Connects to the MB through an interconnect cable (flat cable)	a1 - extension 1	external line 1
2			b1 - extension 1	external line 2
3			a2 - extension 2	
4			b2 - extension 2	
5			a3 - extension 3	
6			b3 - extension 3	
7			a4 - extension 4	
8			b4 - extension 4	

Table 3-11 EB 204 - CND Connector Assignments

3.5.2 HiPath 1150/1190/1190R

Capacity

- 800 - 8 external analog lines
- 400 - 4 external analog lines
- 200 - 2 external analog lines
- 210 - 2 external analog lines and 10 analog extensions;
- 206 - 2 external analog lines and 6 analog extensions
- 202 - 2 external analog lines and 2 analog extensions
- 012 - 12 analog extensions;
- 010 - 10 analog extensions.

EB 210, EB 206 and EB 202 Expansion Modules

Interfaces

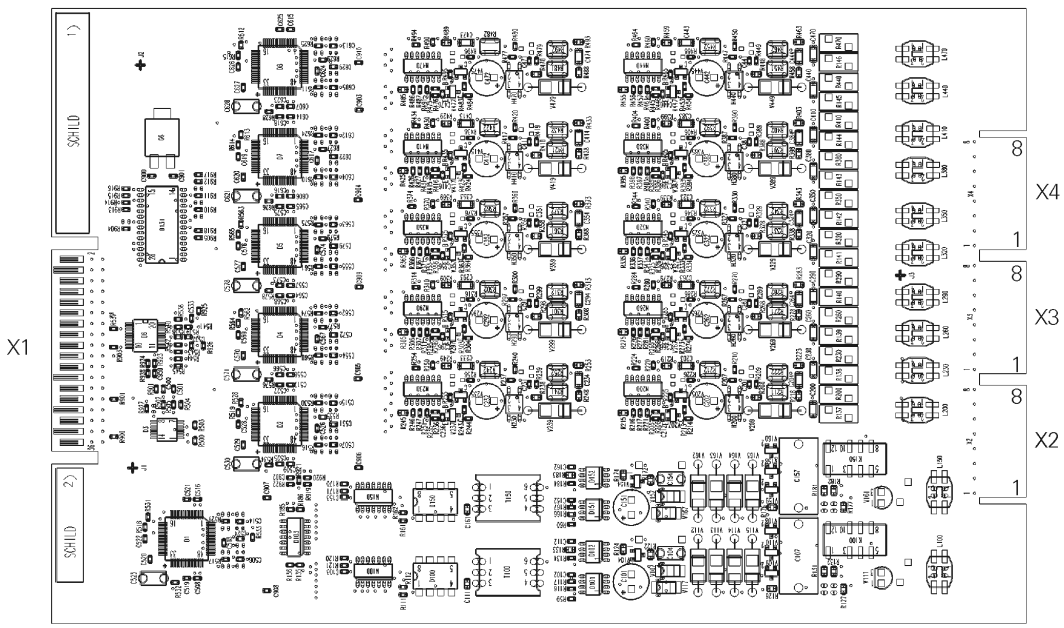


Figure 3-10 EB 210 Module Overview

Figure 3-10 shows the distribution of extensions and external lines associated with the EB 210 module connectors. The distribution associated with the EB 206 and 202 modules is limited by their capacity.

Connector Assignments for EB 210, EB 206 and EB 202 Modules

Contact	X1 Connector	X2 Connector	X3 Connector	X4 Connector
1	Connection to MB through backplane connector	a1 - external line 1	a3 - extension 3	a7 - extension 7
2		b1 - external line 1	b3 - extension 3	b7 - extension 7
3		a2 - external line 2	a4 - extension 4	a8 - extension 8
4		b2 - external line 2	b4 - extension 4	b8 - extension 8
5		a1 - extension 1	a5 - extension 5	a9 - extension 9
6		b1 - extension 1	b5 - extension 5	b9 - extension 9
7		a2 - extension 2	a6 - extension 6	a10 - extension 10
8		b2 - extension 2	b6 - extension 6	b10 - extension 10

Table 3-12 Connector assignments for Modules EB 210, EB 206 and EB 202

Note 1: X2 connector used for EB 210, EB 206, and EB 202 X3 connector used for EB 210 and EB 206; X4 connector for EB 210.

EB 012 and EB 010 Expansion Modules

Interfaces

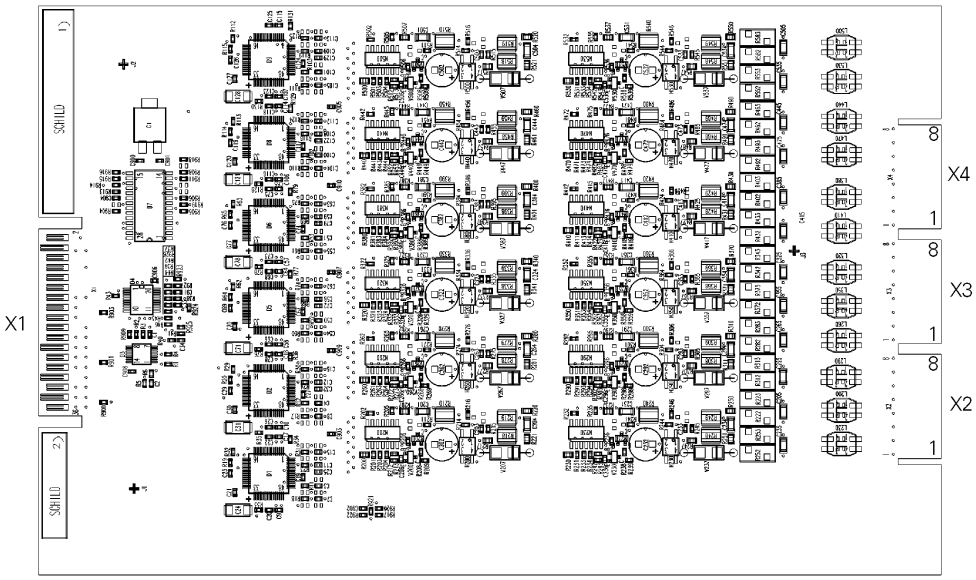


Figure 3-11 EB 012 Module Overview

Figure 3-11 shows the distribution of extensions and external lines associated with the EB 012 module connectors. The distribution associated with the EB 010 module is limited by its capacity.

Connector assignments for the EB 012 and EB 010 Modules

Contact	X1 Connector	X2 Connector	X3 Connector	X4 Connector
1	Connection to MB through backplane connector	a1 - extension 1	a5 - extension 5	a9 - extension 9
2		b1 - extension 1	b5 - extension 5	b9 - extension 9
3		a2 - extension 2	a6 - extension 6	a10 - extension 10
4		b2 - extension 2	b6 - extension 6	b10 - extension 10
5		a3 - extension 3	a7 - extension 7	a11 - extension 11
6		b3 - extension 3	b7 - extension 7	b11 - extension 11
7		a4 - extension 4	a8 - extension 8	a12 - extension 12
8		b4 - extension 4	b8 - extension 8	b12 - extension 12

Table 3-13 EB 012 and EB 010 Connector Assignments

Note 1: X4 connector uses contacts 5 through 8 on the EB 012 only.

EB 800, EB 400 and EB 200 Expansion Modules

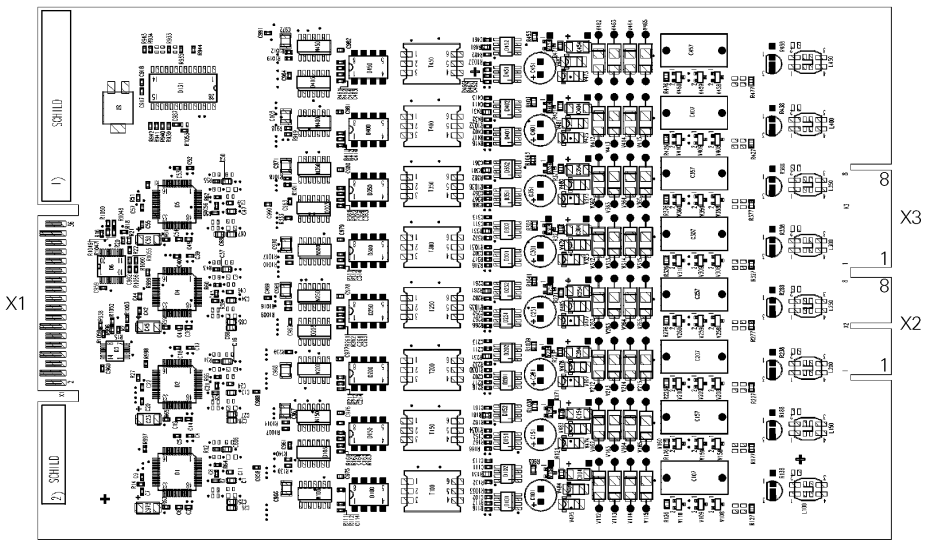


Figure 3-12 EB 800 Module Overview

Figure 3-12 shows the distribution of extensions and external lines associated with the EB 800 module connectors. The distribution associated with the EB 400 and EB 200 modules is limited by their capacity.

Connector Assignments for EB 800, EB 400 and EB 200 Modules

Contact	X1 Connector	X2 Connector	X3 Connector
1	Connection to MB through backplane connector	a1 - external line 1	a5 - external line 5
2		b1 - external line 1	b5 - external line 5
3		a2 - external line 2	a6 - external line 6
4		b2 - external line 2	b6 - external line 6
5		a3 - external line 3	a7 - external line 7
6		b3 - external line 3	b7 - external line 7
7		a4 - external line 4	a8 - external line 8
8		b4 - external line 4	b8 - external line 8

Table 3-14 EB 800, EB 400 and EB 200 connector assignments

Note 1: Modules EB 800, 400, and 200 do not have circuit breakers for power outages.
X2 connector used for EB 800, EB 400, and EB 200

X3 connector used for EB 800.

3.5.3 S_0 Module

Introduction

This module provides access to ISDN networks and network resources through 2/5 S_0 standard digital access channels (4 or 10).

Functions

- Each ISDN access enables two 64 Kbits/s communications channels.
- Depending on your carrier, some features may be provided, including Caller ID, Caller ID Blocking, Direct Dialing to Extensions and so on.

3.5.3.1 HiPath 1120

Interfaces

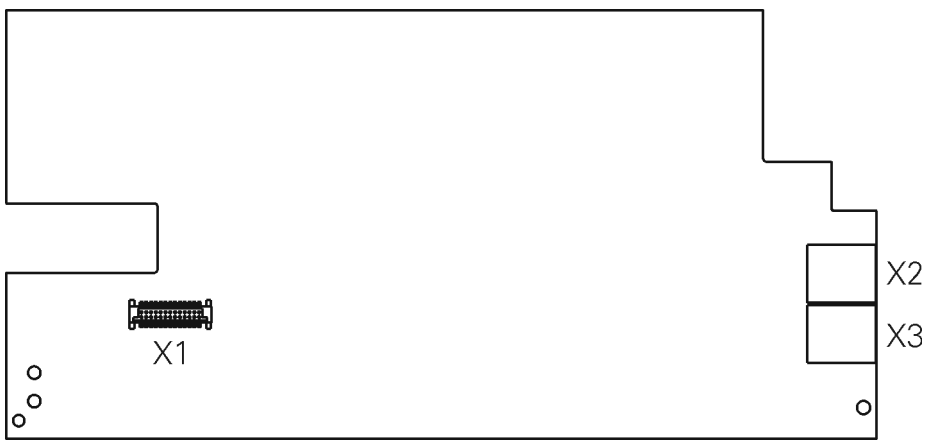


Figure 3-13 HiPath 1120 S_0 Module

The Figure 3-13 features a 2-Port S_0 module; also available as a single-Port option.

Port 1 X2 and X3	Port 2 X4 and X5
Slot 1 and 2 - without RT (Resistive Termination) (factory default)	
Slot 3 and 2 - with RT (resistive termination used when the port is configured as a S0-BUS port)	

Table 3-15 S_0 Module jumpers HiPath 1120

S_0 Module Connector Assignments

Port 1 X1 Connector	Port 2 X6 Connector	Port 3 X7 Connector
Connection to the MB is through a pin connector	RJ 45	RJ 45

Table 3-16 S_0 Module connectors for HiPath 1120

3.5.3.2 HiPath 1150/1190/1190R

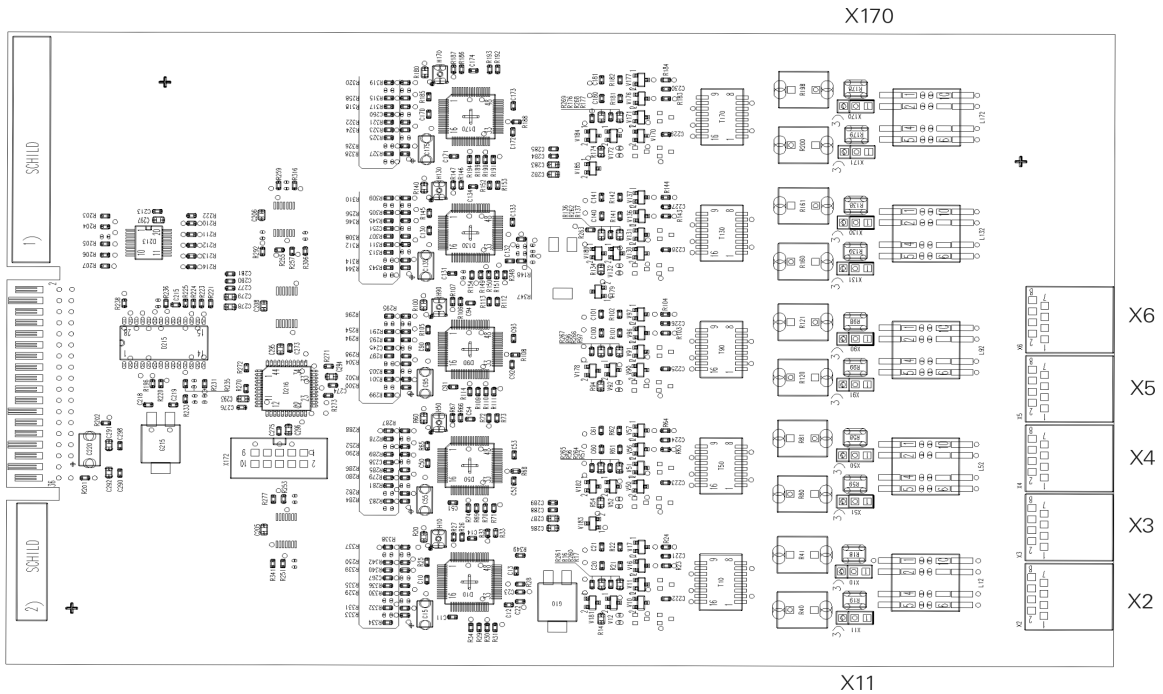


Figure 3-14 S_0 HiPath 1150/1190/1190R Module

The Figure 3-14 features a 5-Port S_0; also available as a 2-Port option.

Port 1 X10 and X11	Port 2 X50 and X51	Port 3 X90 and X91	Port 4 X130 and X131	Port 5 X170 and X171
Slot 1 and 2 - without RT (Resistive Termination) (factory default)				
Slot 3 and 2 - with TR (resistive termination used when the port is configured as a S_0-BUS port)				

Table 3-17 S_0 Module HiPath 1150/1190/1190R jumpers

Connector Assignments

X1 Connector	Port 1 X2 Connector	Port 2 X3 Connector	Port 3 X4 Connector	Port 4 X5 Connector	Port 5 X6 Connector
MB is connected using a pin connector	RJ 45	RJ 45	RJ 45	RJ 45	RJ 45

Table 3-18 S_0 Module connectors for HiPath 1150/1190/1190R

S_0 Basic Access

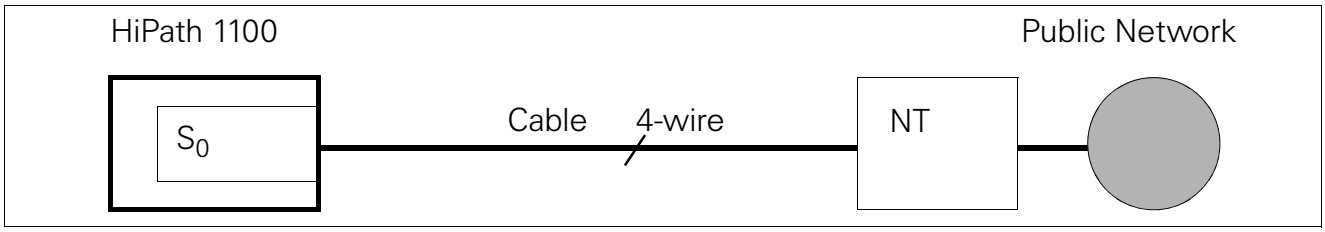


Figure 3-15 S_0 Basic Access Connection

S_0 Module Connector

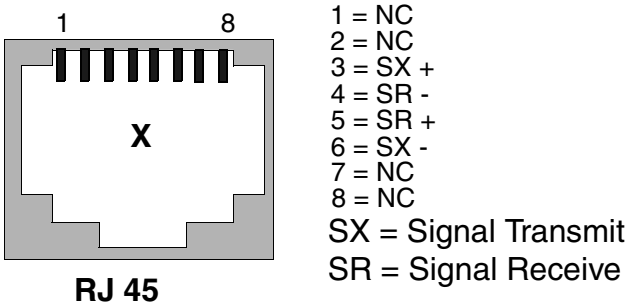


Figure 3-16 S_0 connector signal distribution

Setup and Installation of S_0 Module Connectors

System	Position/Slot
HiPath 1120	2
HiPath 1150	3
HiPath 1190/1190R	1 or 11

Table 3-19 Installing a S_0 Module

3.5.4 TME1 Module

A TME1 module can be configured for operating as a E1 CAS or S2 access.

Warning

The TME1 module will be shipped from the factory already configured for operating as a CAS interface.

In order to enable the module to operate as a S2 interface it must be reconfigured by followinf a specified procedure in the S2M Maintenance.

- **E1 CAS Access**

A TME1 module with E1 CAS access consists of a Digital Interface Unit (DIU) used for connecting the HiPath 1150/1190/1190R to the PSTN via a E1 trunk. The E1 trunk can carry 30 digital voice channels. However, the HiPath 1150 systems use up to 20 channels, while the HiPath 1190 systems use up to 30 channels with the TME1 module allocated to slot 1 and up to 15 channels when it is allocated to slot 11.

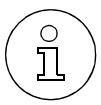
- **Functions**
  - Increases the system's number of external lines
  - Provides Caller ID (CLIP) and Direct Dialing to Extensions (DID) to help reduce call loss rate while simplifying access for the user.

HiPath 1190/1190R: In the event of a problem occurring with the Master TME1 link with E1 CAS access (see "TME1 module display readings (CAS Access)" on page 3-40) during an external call, the system will go into a mute state for 3 seconds while the system clock is synchronized.

- **Access S2**

Provides connection to ISDN through primary access (30-channel) with capacity for using all services offered by the network.

- **Functions**
  - Expands the system's number of external lines to a maximum of 20 for the HiPath 1150 and 45 for the HiPath 1190/1190R
  - The system operates only with Point-to-Point (PP) connection.
  - ISDN line may also be used for video conferencing (external connection outside of the exchange).
  - This features allows you to permanently forward calls to another telephone number (CF), or to Recall when Busy (CCBC), to automatically search for MSN numbers (Search MSN), to use Call Deflection (CD) and to send ticketing information while calls are in progress (AOC-D) and at the end of calls (AOC-E).
  - Features such as Caller ID (CLIP), Malicious Call Identification (MCID), Caller ID Blocking (CLIR) can be enabled if provided by your local carrier.



HiPath 1190/1190R: In the event of a problem occurring with the Master TME1 link with master S2M access (see "TME1 module display readings (S2 access)" on page 3-41) during an external call, the system will go into a mute state for 3 seconds while the system clock is synchronized.

Note: In the case of ISDN some facilities must be provided under contract with a local carrier.

TME1 interfaces

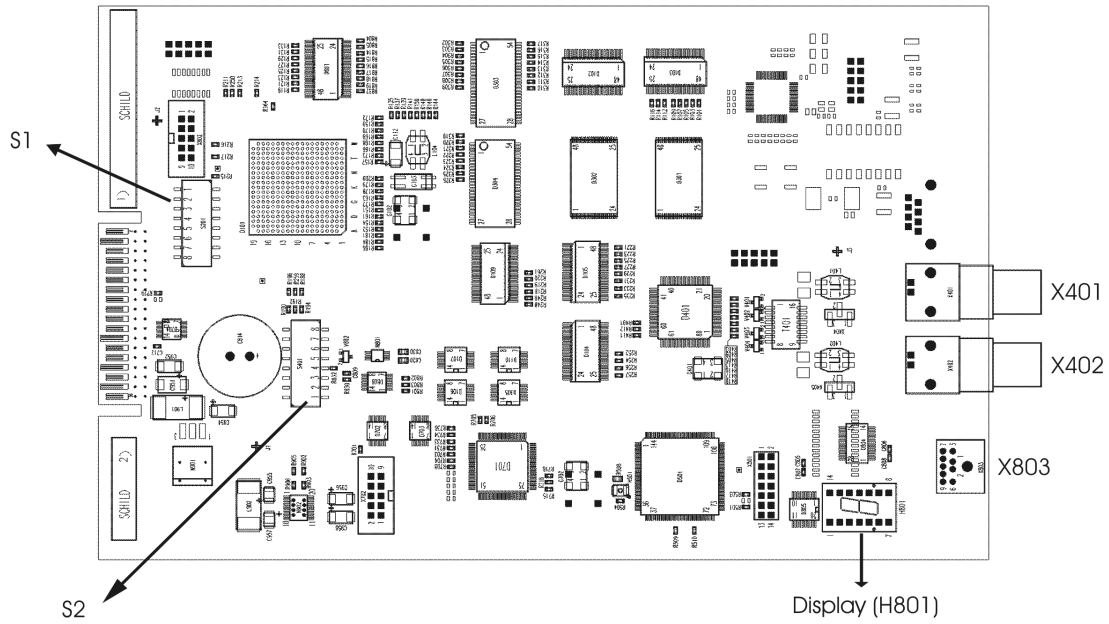


Figure 3-17 TME1 Module

S1 Component	S2 Component	H801 Component
DIP Switch 1	DIP Switch 2	Display

Table 3-20 TME1 Module Components

TME1 Module Connector Assignments

X803 Connector	X402 Connector	X401 Connector
Serial Interface Module-PC connection	BNC RX connector Module and E1 Trunk connection	BNC TX connector Module and E1 Trunk connection

Table 3-21 TME1 Module Connector Assignments

Primary access (E1 CAS)

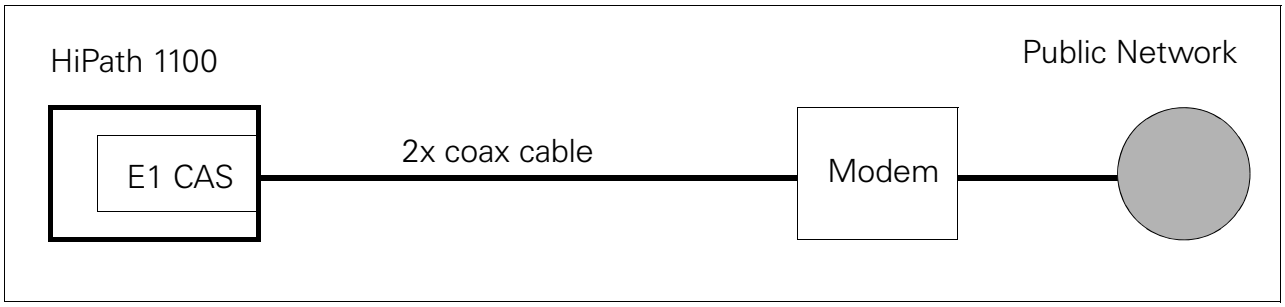


Figure 3-18 CAS access connection

Primary Access (S2)

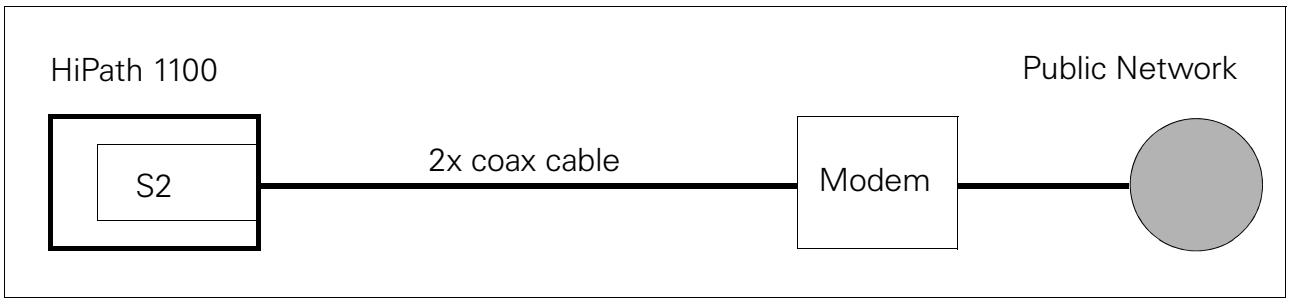


Figure 3-19 S2 access connection with 75-Ohm impedance

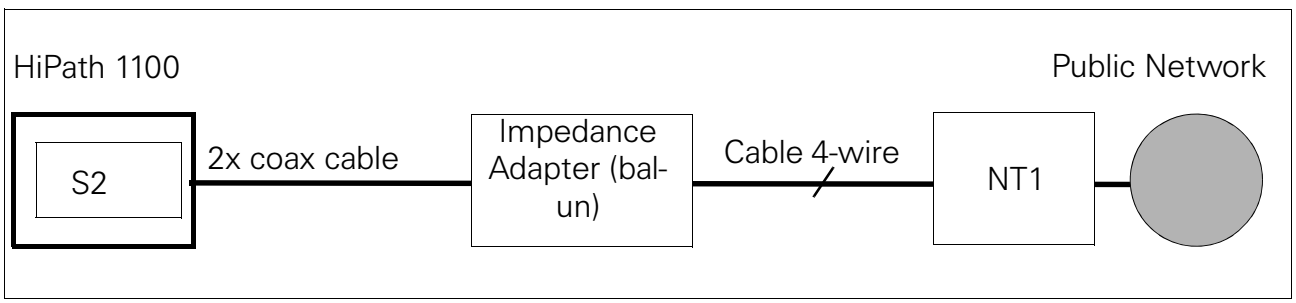


Figure 3-20 S2 access connection with 120-Ohm impedance

Connector for TME1 Module Configuration

The connector's function is to connect a PC or modem to a module using a serial cable (see "TME1 Serial Cable" on page 3-68). This allows you to program the module using the E1 Trunk Manager tool (E1 CAS access) or a S2M Maintenance tool (S2 access).

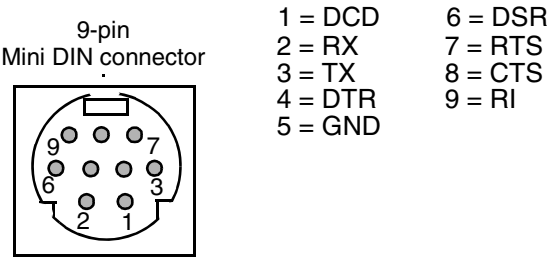


Figure 3-21 Signal distribution on the TME1 module connector

> **Warning**
>
> Do not touch the TME1 module's administrative serial interface connector (X803) without first disconnecting all analog extensions and trunk connectors. Failure to follow this procedure may expose the user to dangerous voltages.
>
> The administrative serial interface connector (X803) as well as all other connectors and interconnect cables should only be serviced by trained technical personnel.

DIP Switch Positions for the TME1 Module

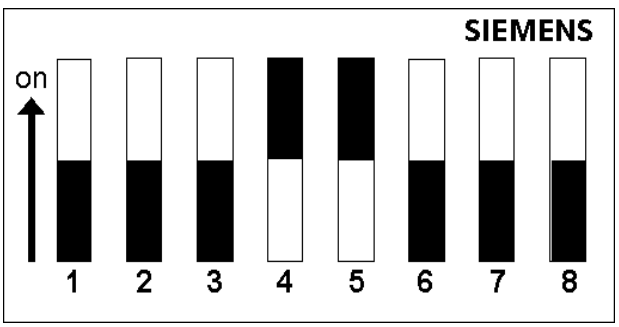


Figure 3-22 DIP Switch for the TME1 Module

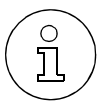
By changing the positions of the DIP switches the following settings can be configured:

- DIP Switch 1 (S1)

It allows you to clean the Flash memory, select the Baud Rate and execute an auto-test.

Switch	Procedure	Meaning	Possible Settings
1	FE	Delete Flash memory	ON - Deletes Flash memory when the PABX is turned on OFF - System will work as usual (default).
2	EST	Extended autotest (E1 CAS access)	ON - Activates autotest (E1 CAS access) OFF - Skips autotest (default1) (E1 CAS access).
2	EST	For future applications (S2M access)	
3	BR1	Baud rate configuration	(3) OFF, (4) OFF and (5) OFF: 9600 bps (3) OFF, (4) OFF and (5) ON: 19200 bps (3) OFF, (4) ON and (5) OFF: 38400 bps (3) OFF, (4) ON and (5) ON: 57600 bps (default)
4	BR2		
5	BR3		
6	RES	For future applications	
7	RES		
8	RES		

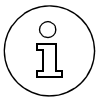
Table 3-22 TME1 Module, DIP Switch 1



If an error occurs during software installation, clear the Flash memory and reinstall the software. Follow these instructions:

- Turn the PABX off
- Set Switch 1 (FE) to ON
- Turn the PABX on again
- Wait for F and E to show on the display
- Turn the PABX off
- Set switch 1 (FE) to OFF again
- Turn on the PABX

- DIP Switch 2 (S2)



It is recommended that you do not change the DIP Switch 2 default setting.

Switch	Procedure	Default
1	DSP - BIO	OFF
2	Reserved	OFF
3	Reserved	OFF
4	Battery connection	OFF
5	MODCK2	ON
6	WDI	ON
7	MODCK1	OFF
8	E1 interface impedance (E1 CAS access)	OFF
8	Reserved (S2 access)	OFF

Table 3-23 TME1 Module, DIP Switch 2

7-segment display readings (H801) (E1 CAS access)

Display	Reading	Meaning
8	Continuous	Module is powered.
J	Continuous	Starting TME1 module.
E	Continuous	Waits 10 seconds for a command from the software (E1 Trunk Manager). If it receives no command after the specified time, the system resumes its usual operation.
8	Continuous	Transferring memory contents to DRAM memory.
	Continuous	Checking and validating contents of Flash memory.
P	Continuous	TME1 module is active but CAS link is out of service.

Display	Reading	Meaning
A	Continuous	TME1 module is active with CAS link.
1	Continuous	“Unpacking” the HiPath E1 Trunk Manager.
3	Continuous	
7	Continuous	Writing software to Flash memory.
F	Continuous	Checking transferred data.
O	Continuous	E1 and CAS links are still out of service; the reason is unknown.
3	Cycle - Live	Clearing Flash memory.
F E	Alternating	Flash memory cleared.
H	Continuous	No software in Flash memory. Waiting for Tool to download software
A.	Continuous	The system uses this link’s clock as reference.

Table 3-24 TME1 module display readings (CAS Access)

7-segment display readings (H801) (S2 access)

Display	Reading	Meaning
0	Continuous	Wait for the S2M Maintenance tool connection.
1	Continuous	Starting TME1 module.
E	Continuous	Waits 10 seconds for a command from the software (S2M Maintenance).
8	Continuous	Transferring memory contents to DRAM memory.
	Continuous	Checking and validating contents of Flash memory.

Display	Reading	Meaning
A	Continuous with blinking .g. segment	Active TME1 module with two links established.
2 or 3	Continuous	Loading Flash software.
7	Continuous	Writing software to Flash memory.
F	Continuous	Checking transferred data.
3	Cycle - Live	Clearing Flash memory.
F E	Alternating	Flash memory cleared.
H	Continuous	No software in Flash memory. Waiting for Tool to download software
8.	Continuous	Power-Up Reset
⌟	Continuous	Clearing Flash memory.
⌝	Continuous	DIU-S2M starting.
–	Blinking	DIU-S2M operating normally. If it stops blinking it means the module is no longer in operation.
.	Blinking	TME1 is synchornizing the clock via extrnal network.
ı	Continuous	Link to the network is operational.
ı	Continuous	Link to mainboard is operational.

Table 3-25 TME1 module display readings (S2 access)

3.5.5 $U_{P0/E\ MODULE}$ and CTR $U_{P0/E}$ Module

Introduction

This module allows you to connect $U_{P0/E}$ telephones (optiPoint 500) via 8, 4 or 2 $U_{P0/E}$ interfaces to a HiPath 1150/1190 system, and via 4 or 2 $U_{P0/E}$ interfaces to a HiPath 1120 system.

Installation of CTR-U module required.$_{P0/E}$ On the MB module (see “Installing a CTR- UP0/E Module” on page 4-30)

3.5.5.1 $U_{P0/E}$ Module

HiPath 1120

Interfaces

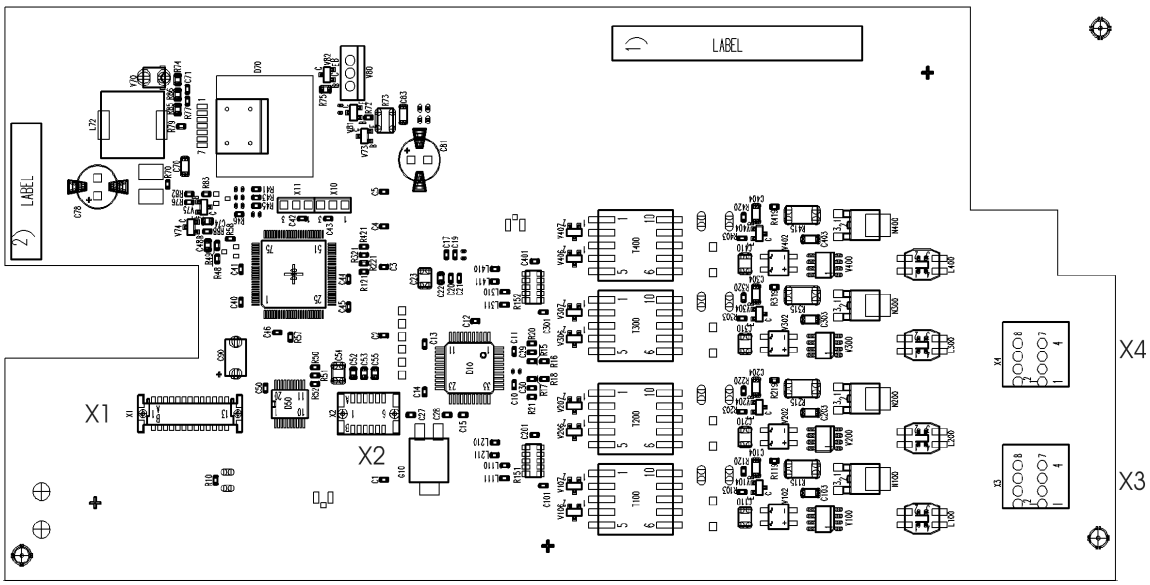


Figure 3-23 $U_{P0/E}$ Module HiPath 1120

$U_{P0/E}$ Module Connector Assignments

X1 Connector	X2 Connector	X3 Port	X4 Port
Flat Cable for MB	Additional Flat Cable for MB	a1 - port 1	a3 - port 3
		b1 - port 1	b3 - port 3
		a2 - port 2	a4 - port 4
		b2 - port 2	b4 - port 4

Table 3-26 $U_{P0/E}$ Module Connectors for HiPath 1120

Note: $U_{P0/E}$ modules for the HiPath 1120 may have 4 or 2 ports.

HiPath 1150/1190/1190R

Interfaces

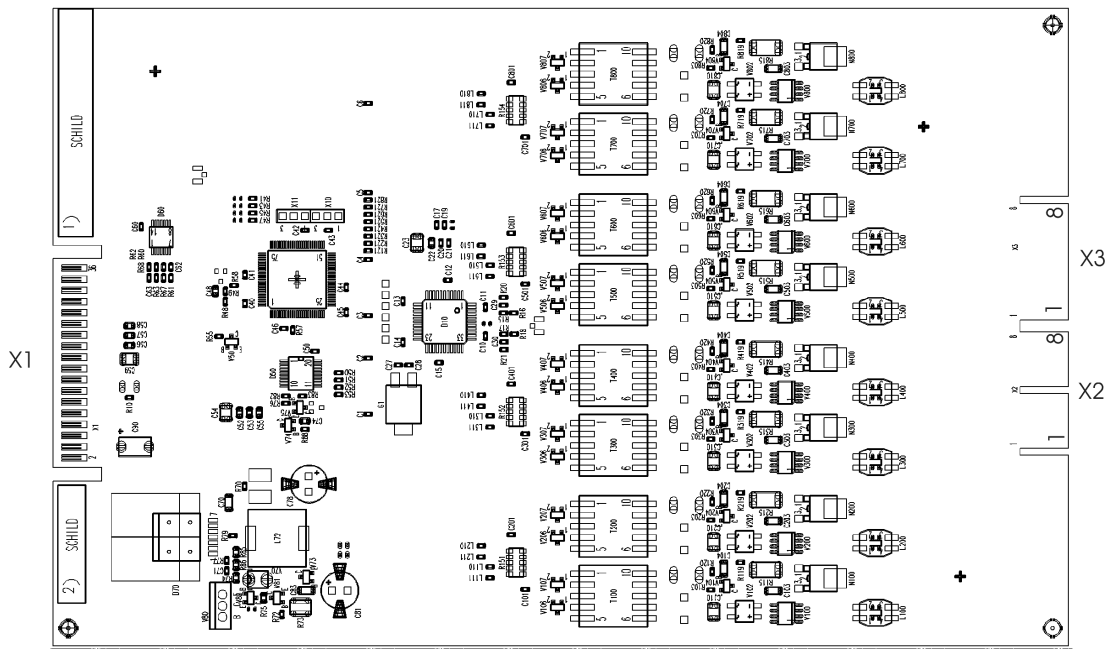


Figure 3-24 $U_{P0/E}$ Module HiPath 1150/1190/1190R

$U_{P0/E}$ Module Connector Assignments

X1 Connector	X2 Port	X3 Port
Backplane	a1 - port 1	a5 - port 5
	b1 - port 1	b5 - port 5
	a2 - port 2	a6 - port 6
	b2 - port 2	b6 - port 6
	a3 - port 3	a7 - port 7
	b3 - port 3	b7 - port 7
	a4 - port 4	a8 - port 8
	b4 - port 4	b8 - port 8

Table 3-27 $U_{P0/E}$ Module Connector Assignments for HiPath 1150/1190/1190R

Note: $U_{P0/E}$ modules for HiPath 1150/1190 have 8, 4 or 2 ports available.

3.5.5.2 CTR-$U_{P0/E}$ Module

Interfaces

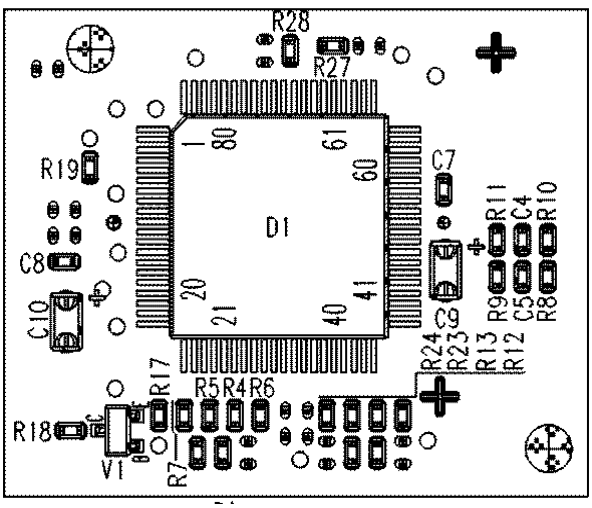


Figure 3-25 CTR-$U_{P0/E}$ ModuleHiPath 1120/1150/1190

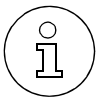
3.6 Option Modules (OM)

3.6.1 ADSL Module

Introduction

With this module you can create a small LAN network for home, office or other uses.

This module is designed for use on the HiPath 1100 based on ADSL (Asymmetric Digital Subscriber Line) technology. It is possible, therefore, to receive high-speed data and voice (up to 8 Mbit/s) through a single pair on a standard telephone line (POTS).



The V.24 serial interface module cannot be used if the system has an ADSL Module installed.
Management must be performed using a ADSL module with a LAN interface.

Functions

- ASDL modem with Full ADSL (8 Mbps downstream and 1 Mbps upstream - ITU G.922,1) and ADSL G.Lite (1.5 Mbps downstream and 512 kbps upstream - ITU G.922.2, ANSI T1.413-1998 Standard) capability.
- 4 10/100 Base-T standard HUB ports with four ports for building a small LAN.
- Module with built-in microfilter to separate voice and data signals.

3.6.1.1 HiPath 1120

Interfaces

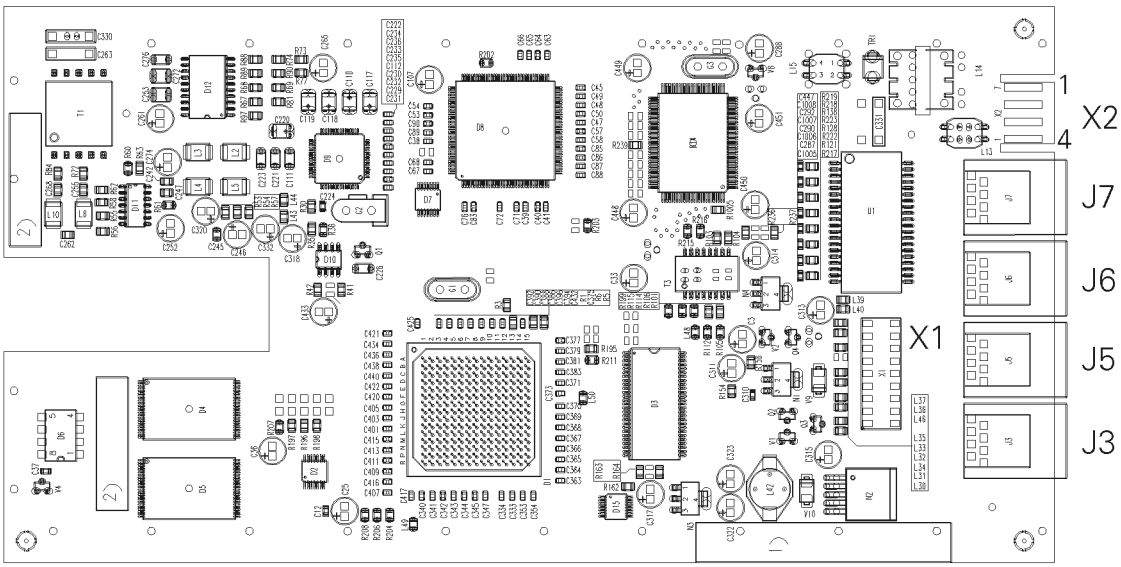


Figure 3-26 ADSL Module HiPath 1120

ADSL Module Connector Assignments

Contact	X1 Connector	X2 Connector	J3 Connector	J5 Connector	J6 Connector	J7 Connector
1	Connection to the MB is through a pin connector	External line input with ADSL	RJ45 connector HUB	RJ45 connector HUB	RJ45 connector HUB	RJ45 connector HUB
2						
3		External analog line output				
4						

Table 3-28 HiPath 1120 ADSL module connectors

Note: Connect X2 connector slots 3 and 4 to a HiPath 1120 external analog line input using the cable included with the module.

CND Version

Interfaces

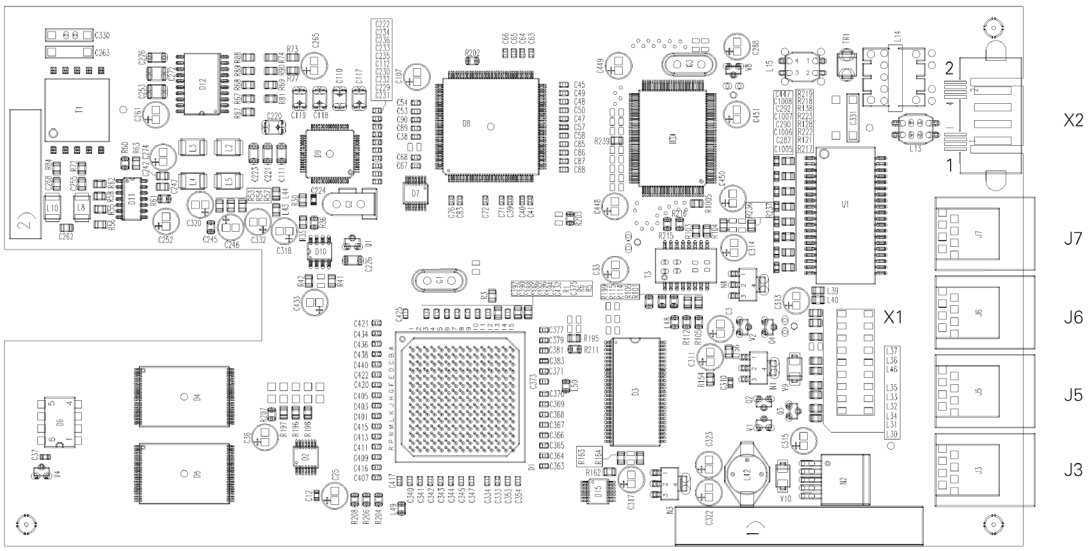


Figure 3-27 ADSL Module HiPath 1120 - CND

ADSL Module Connector Assignments

Contact	X1 Connector	X2 Connector	J3 Connector	J5 Connector	J6 Connector	J7 Connector
1	Connection to the MB is through a pin connector	External line input with ADSL	RJ45 connector HUB	RJ45 connector HUB	RJ45 connector HUB	RJ45 connector HUB
2		External analog line output				

Table 3-29 ADSL Module Connector Assignments HiPath 1120 - CND

Note: Connect the X2 connector slot 2 to an HiPath 1120 external analog line input using the cable included with the module.

3.6.1.2 HiPath 1150/1190/1190R

Interfaces

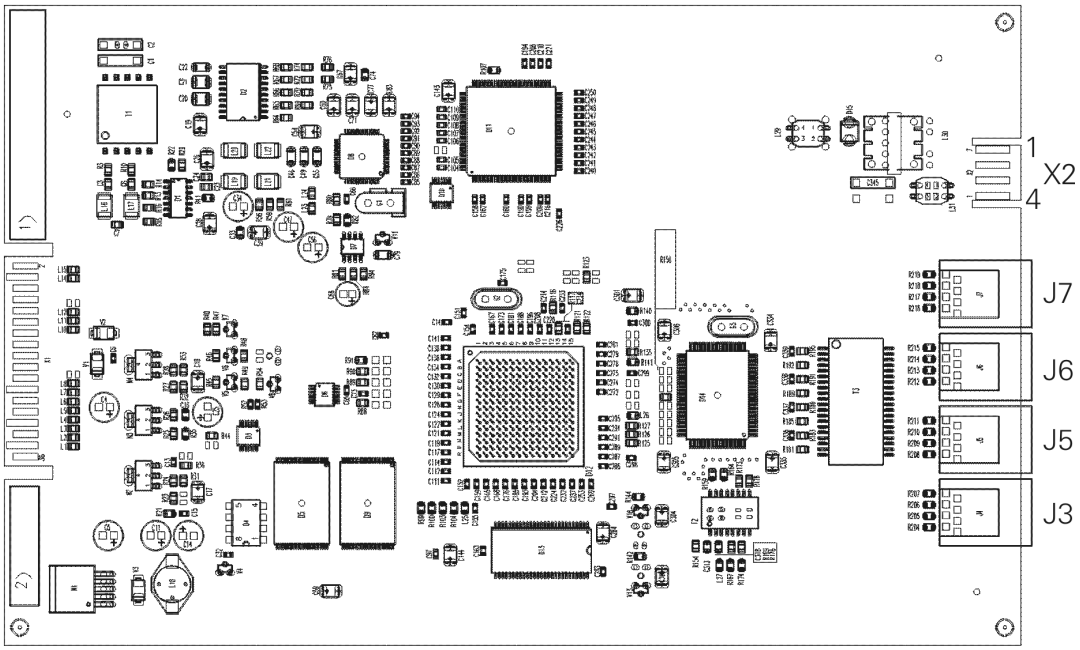


Figure 3-28 ADSL Module HiPath 1150/1190/1190R

ADSL Module Connector Assignments

Contact	X2 Connector	J3 Connector	J5 Connector	J6 Connector	J7 Connector
1	External line input with ADSL	RJ45 connector HUB	RJ45 connector HUB	RJ45 connector HUB	RJ45 connector HUB
2					
3	External analog line output				
4					

Table 3-30 ADSL Module Connector Assignments HiPath 1150/1190/1190R

Note: Connect X2 connector slots 3 and 4 to a HiPath 1150/1190/1190R external analog line input using the cable included with the module.

3.6.2 EVM Module

Introduction

This module allows you to use Voice Mail services with the HiPath 1100 family of switches.

Functions

- 24 standard mailboxes and 4 forwarding mailboxes (for auto-answering, greeting with transfer options, day/night service, speed dial)
- Capability for automatic assignment of mailboxes
- User-configurable mailboxes
- Message/Music playback before answering
- Up to two different greetings
- Manual or Day/Night Service greeting selection
- Context-sensitive User's Guide
- Messages inform users of current menu options.
- Two actions allow for call transfer and auto-answering (2 ports)
- Capability for a total of 120 minutes of voice recording
- Maximum voice message recording time for each mailbox is 5 minutes, configurable from 1 to 5 minutes. The default setting is 2 minutes.
- Date and time display for each message
- Fax calls transfer (auto-detect) to a pre-configured fax destination
- Memory overload alert when it exceeds 80%

3.6.2.1 HiPath 1120/1150/1190/1190R

Interfaces

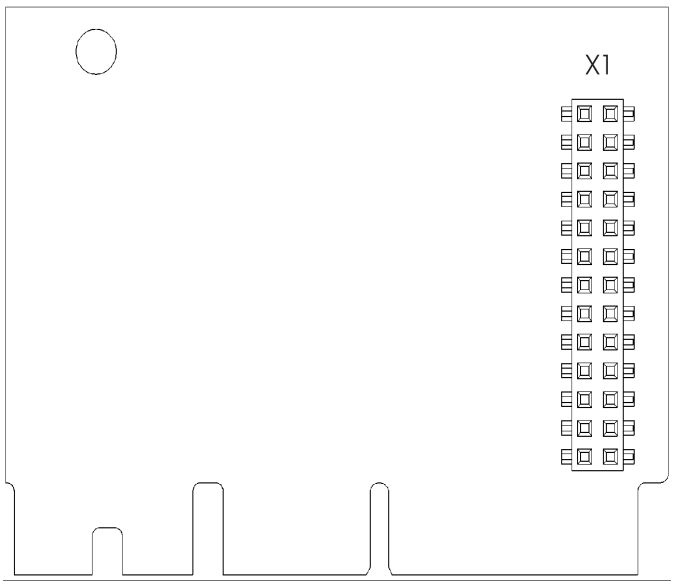


Figure 3-29 HiPath 1120/1150/1190/1190R EVM Module

Connector Assignments

X1 Connector
Connects to MB through a pin connector

Table 3-31 EVM HiPath 1120/1150/1190/1190R module connector

3.6.3 CD 16 Module

Introduction

This is an expansion module with capacity for connecting over 16 CD interfaces to the HiPath 1190/1190R which means you can connect more than 16 KS-type system telephones.
CD 16 module has its own special slot with CD printed on it.

CD 16 Interfaces

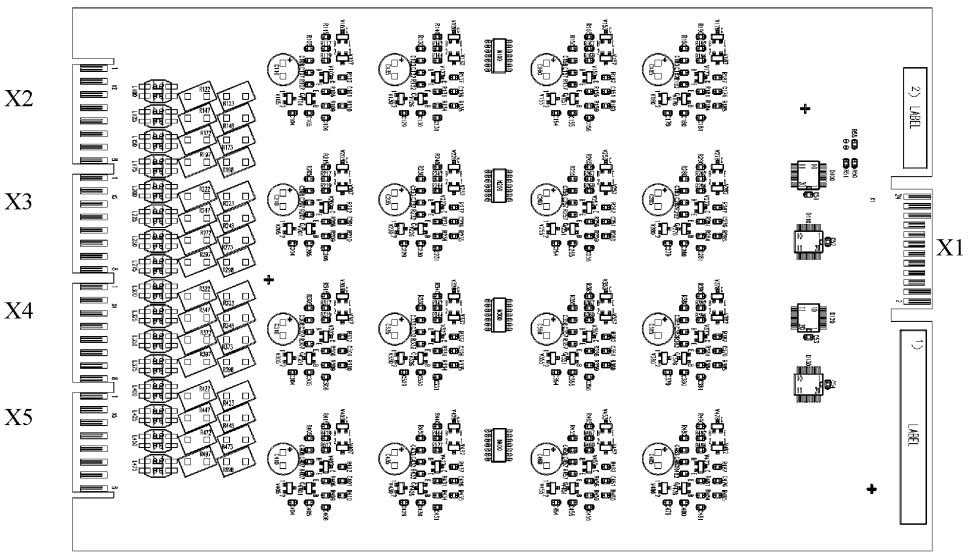


Figure 3-30 CD 16 Module

Note: CD 16 Module intrefaces are installed sequentially after the CD interfaces on the MB module.

CD 16 Module Connector Assignments

Contact	X1 Connector	X2 Connector	X3 Connector	X4 Connector	X5 Connector
1	Connection to MB through backplane connector	C - port 1	C - port 5	C - port 9	C - port 13
2		D - port 1	D - port 5	D - port 9	D - port 13
3		C - port 2	C - port 6	C - port 10	C - port 14
4		D - port 2	D - port 6	D - port 10	D - port 14
5		C - port 3	C - port 7	C - port 11	C - port 15
6		D - port 3	D - port 7	D - port 11	D - port 15
7		C - port 4	C - port 8	C - port 12	C - port 16
8		D - port 4	D - port 8	D - port 12	D - port 16

Table 3-32 CD 16 Module Connector Assignments

3.6.4 Music Module

Introduction

Allows music input for external calls on hold.

Note: Music Module can pnly be used with HiPath 1120.

Functions

- Links a recorded message or an external music source (MOH) to a UCD Group when all group extensions are busy.
- It also features a relay and a sensor for supporting additional devices such as Entrance Telephones, Door Openers, alarms, etc.
- This allows you to insert music for external calls placed on hold (MOH) using an internal or external music source.

3.6.4.1 HiPath 1120

Interfaces

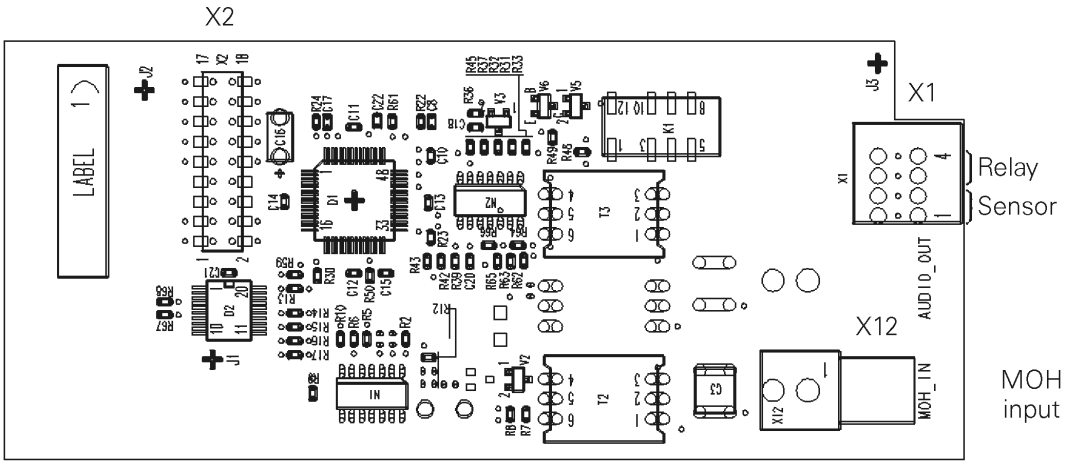


Figure 3-31 Music Module

Music Module Connector Assignments

X1 Contact	X1 Connector	X12 Connector RCA	X2 Connector
1 and 2	Sensor	External music input (MOH)	Connection to the MB is through a pin connector
3 and 4	Relay	---	

Table 3-33 Music Module Connector Assignments

The activation logic based on the initial position of the sensor contacts as well as its resulting actions are programmable.
If a sensor is programmed, the relay can be activated through that sensor. It can be activated either manually or automatically after a specified time. When the relay is activated, the contacts close. When it is deactivated, the contacts open.

Electrical Requirements for Sensors and Relays

Sensor	
Maximum loop resistance	100 Ω

Sensor	
Relay	
Maximum switching current (AC)	1.25 A
Maximum switching current (DC)	2.00 A
Maximum switching voltage (AC)	30 V_{RMS}
Maximum switching voltage (DC)	24 V
Maximum power factor	0,95

Table 3-34 Electrical requirements for sensors and relays

3.6.4.2 HiPath 1150/1190/1190R

On the HiPath 1150/1190/1190R the external audio source (e.g., music) is connected directly to the MB at the X8 slot (see Figure 3-4) or to an analog extension port.

3.6.4.3 Connection Values for an External Music Source*

Internal Resistance	2.4kΩ
Maximum Input Voltage	-10 dBm

***〉 This port supports commercial CD players, receivers, MD, etc. (See Figure 4-39, “Protection and Grounding Connection Diagram”, on page 4-54).

3.7 Power Supply Unit (PSU)

Introduction

The power supply unit (PSU) provides the required voltages for the proper operation of the entire system.

The power supply may or may not have inputs for connecting batteries.

Functions

- Ring Generator
- DC voltage source for circuits
- AC input voltage converter/filter

3.7.1 HiPath 1120

Description

Two versions of power supply units are available for the HiPath 1120:

- **BRA and IM**: Supply voltage: 110 - 127 Vac - 50/60 Hz or 220 Vac - 50/60 Hz
- **CND**: Supply voltage: 110 Vac - 50/60 Hz
- **RSA**: Supply voltage: 220 Vac - 50/60 Hz
- **ARG**: Supply voltage: 220 Vac - 50/60 Hz
- **SPA**: Supply voltage: 220 Vac - 50/60 Hz.

PSU Interfaces

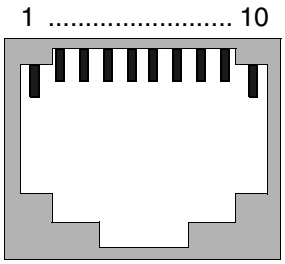


Figure 3-32 HiPath 1120 System PSU Connector

PSU Connector Assignments (HiPath 1120)

Contacts	Function			
	CND	RSA	SPA	IM
1	Free	Free	Free	Free
2 - 3	8 V_{rms}	8 V_{rms}	8 V_{rms}	8 V_{rms}
4 - 5	23 V_{rms}	23 V_{rms}	23 V_{rms}	23 V_{rms}
6 - 7	65 V_{rms}	42 V_{rms}	65 V_{rms}	40 V_{rms}

Contacts	Function			
	CND	RSA	SPA	IM
8 - 9	45 V_{rms}	Free	Free	Free
10	Ground	Free	Free	Free

Table 3-35 PSU Connector Assignments HiPath 1120

Warning
Turn the system power ON or OFF by means of the supply's power cable or the input circuit breaker.

3.7.2 HiPath 1150/1190/1190R

- Supply voltage: 110 - 230 VAC - 50/60 Hz, full range;
- The power supply's 5 x 20mm input (VAC) features two FAST fuses (250V - 4A)
- There are two types of power supplies:
  - With battery connection
  - Without battery connection.

HiPath 1150 PSU Interfaces

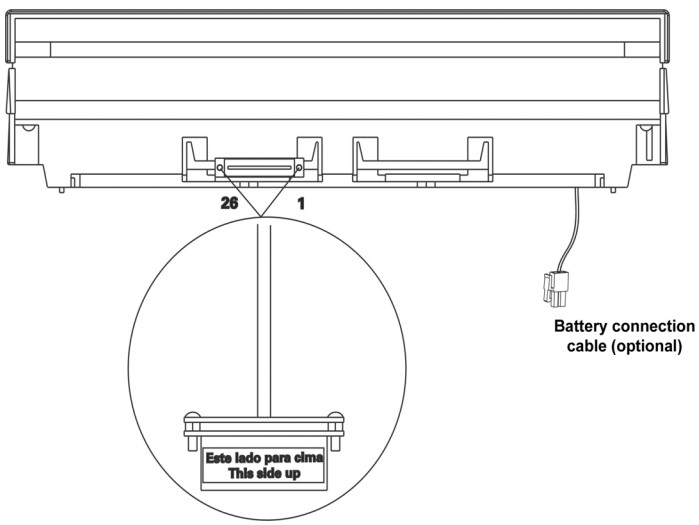


Figure 3-33 PSU Connectors for HiPath 1150

HiPath 1190/1190R PSU Interfaces

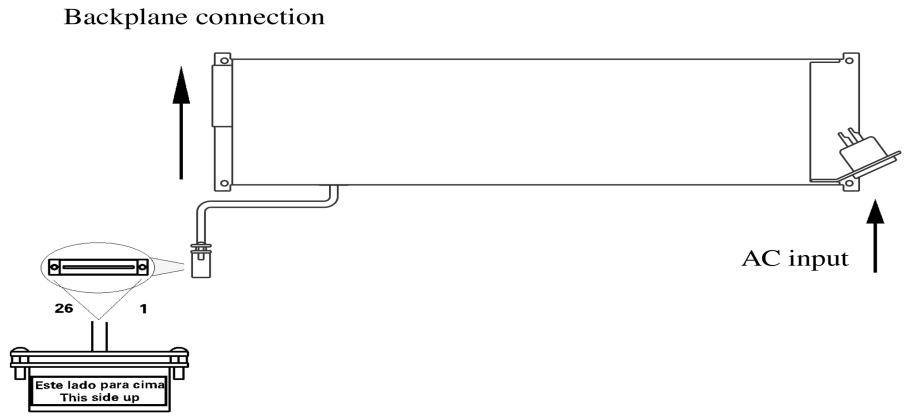


Figure 3-34 PSU Connectors for HiPath 1190/1190R

.

Warning
If the power supply is not supplying the output voltages shown in Table 3-36, open it and check the condition of the fuses.

PSU Connector Assignments

Contact	Function	Contact	Function
1	+5.1 V_{DC}	2	+5.1 V_{DC}
3	+5.1 V_{DC}	4	+5.1 V_{DC}
5	+5.1 V_{DC}	6	+5.1 V_{DC}
7	GND	8	GND
9	GND	10	GND
11	GND	12	GND
13	26.4 V_{DC}	14	26.4 V_{DC}
15	26.4 V_{DC}	16	26.4 V_{DC}
17	26.4 V_{DC}	18	26.4 V_{DC}
19	GND	20	GND
21	GND	22	GND
23	GND	24	GND

Contact	Function	Contact	Function
25	50 V_{AC} + 97 V_{DC} 42 V_{AC} + 85.8 V_{DC} (RSA)	26	50 V_{AC} + 97 V_{DC} 42 V_{AC} + 85.8 V_{DC} (RSA)

Table 3-36 PSU Connector Assignments for HiPath 1150/1190/1190R

3.8 Batteries

In the event of an AC power outage, the HiPath 1150/1190/1190R system can be powered with batteries. The system requires 2 batteries (2x12V) connected in series through a FastOn connector. Battery duty cycle varies according to the capacity of the battery installed.

Note: The pwoer supply used with the system must provide an input for connecting batteries (see Capítulo 3.7, “Power Supply Unit (PSU)” na página 3-54).

Warning
FAILURE TO REPLACE BATTERY WITH SPECIFIED BATTERY TYPE CAN CAUSE RISK OF EXPLOSION. DISCARD USED BATTERIES ACCORDING TO INSTRUCTIONS.

Connection Cable

For connecting the batteries to the HiPath 1150/1190/1190R power source (see Capítulo 4.7.9, “Installing a Power Supply Unit” na página 4-35) and also for protection by means of a fuse.

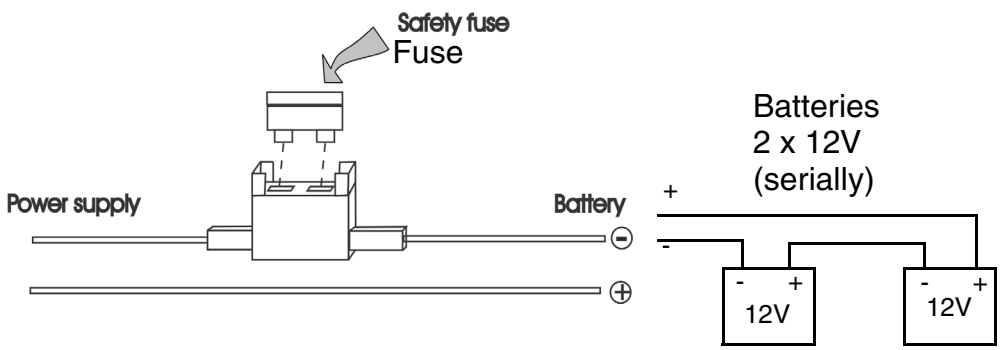


Figure 3-35 Interconnect cable with safety fuse

Technical Data

Battery Type	Valve-Regulated Lead Acid (VRLA)
Fluctuating Voltage	27.2V
Input Voltage:	24V (2X12V)
Capacity	9Ah to 12Ah with 20h discharge
Fuse	7.5A (uniVAL - manufacturer: MTA)

Table 3-37 Batteries - Technical Information..

Warning
Once batteries are exhausted, send them back to the supplier.

3.9 Main Distribution Frame

Introduction

The Main Distribution Frame (MDF) connects cabling to a public exchange and extensions by means of connectors.

Follow the procedures described in Capítulo 4.8, “Connecting Extensions to the System’s Internal MDF (Main Distribution Frame)” na página 4-38 to attach the cables to the MDF connectors.

All connectors required for attaching the cables are provided with the modules and systems.

MDF Interfaces

Cables are attached by pressure (Dinkle connector)

Cables are attached by with screws

4-way

8-way

Cables are attached by connectors (for example, RJ 45)

2-way

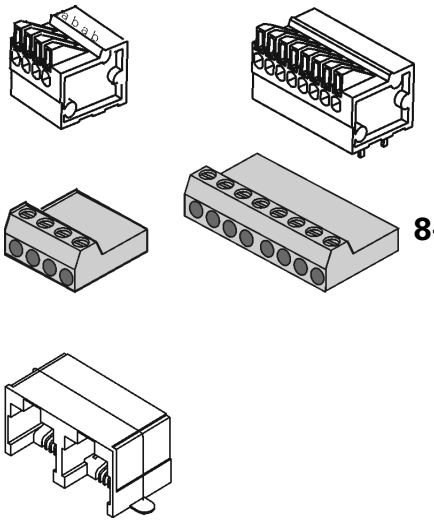


Figure 3-36 MDF - Connectors

3.10 Backplane

Introduction

In the HiPath 1150/1190/1190R systems, a set of connectors mounted on a printed circuit board known as the backplane connects the modules to the motherboard.

3.10.1 HiPath 1150

Interfaces

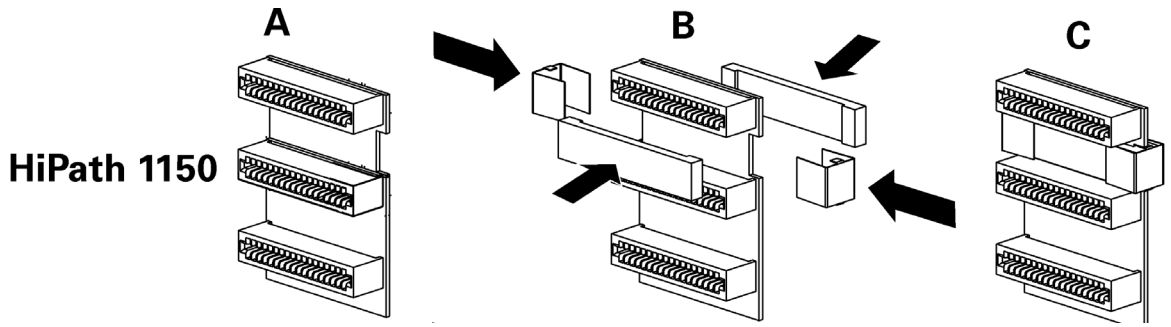


Figure 3-37 Backplane HiPath 1150

Two identical backplanes are provided with the systems as shown in Figure A. In some cases you may need to insert a ferrite bead into the backplane. If the module came with a ferrite bead, install it as shown in Figures B and C.

3.10.2 HiPath 1190/1190R

Interfaces

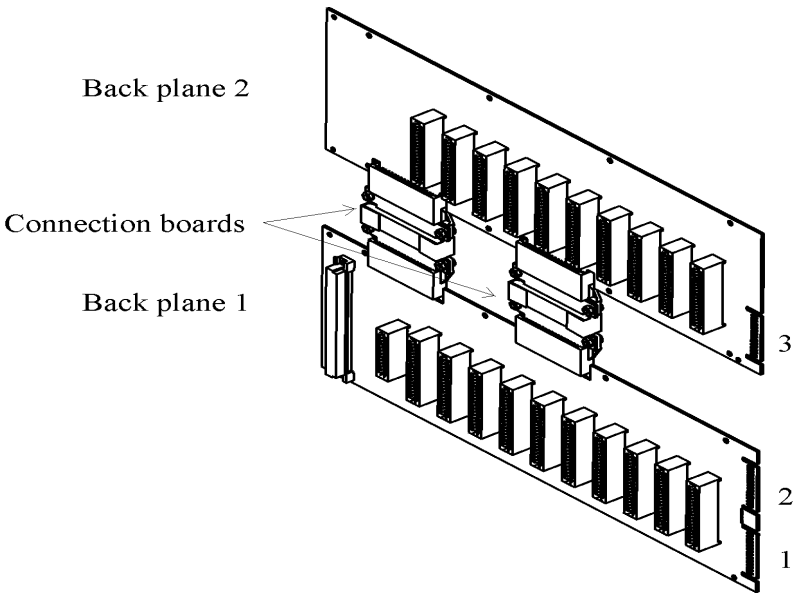


Figure 3-38 HiPath 1190 Backplanes

HiPath 1190/1190R Backplane Connector's Assignments

Connectors 1, 2 and 3	Slots
DC input (PSU)	see Table 4-3

Table 3-38 HiPath 1190/1190R Backplane Connectors

3.11 Entrance Telephone Interface

Introduction

The HiPath 1100 allows for the connection of up to four Entrance Telephones/Door Openers on extension slots. The connection is made by means of an interface between the Entrance Telephone and the PABXs.

Functions

- Interface between the Entrance Telephone and the HiPath 1100.

Interfaces

3.11.1 Model: S30817-K930-A300 - TFE

Without amplifier, for installation of the following models:

- EGUCOM (Ackermann, Emmerich);
- Grothe,Telegärtner
- HDL - Brazil (models: F3A, F4A, F5A);

Follow the diagram on Figure 3-39 for installing HDL models for Brazil

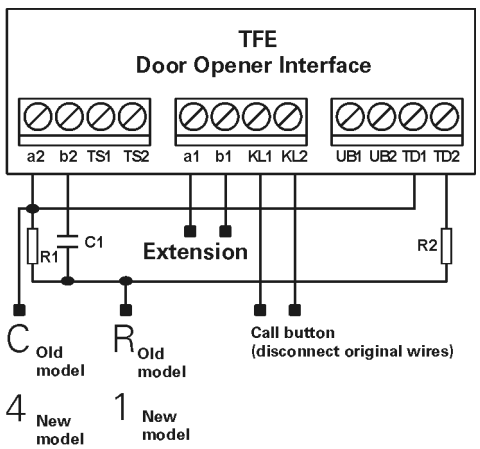


Figure 3-39 TFE Interface Overview - S30817-K930-A300

Additional components include: R1 (1.2 k Ω / 0.25W / 5%) and R2 (33Ω / 0.25W / 5%) resistors, and C1 capacitor (1.0 μ F / 250 Vac / Non-polarized). The connection to the PABX is made with two wires (a1 / b1) while the connection to the Entrance Telephone interface is made with four wires (a2 / b2, KL1, KL2).

3.11.2 Model: S30122-k7696-F313 - TFE

With amplifier, for installation of the following models

- Telekom Doorline M02;
- Siedle;
- Ritto;

For more information, see the TFE Adapter Installation Manual A31003-E8000-X167-*-19 included with the TFE interface.

3.11.3 Model S30817-Q936-C282 - Brazil

For installation in models:

- HDL, F5AZ;
- HDL, F8AZ;
- HDL, F9AZ;

Follow the diagram in the Figure 3-40

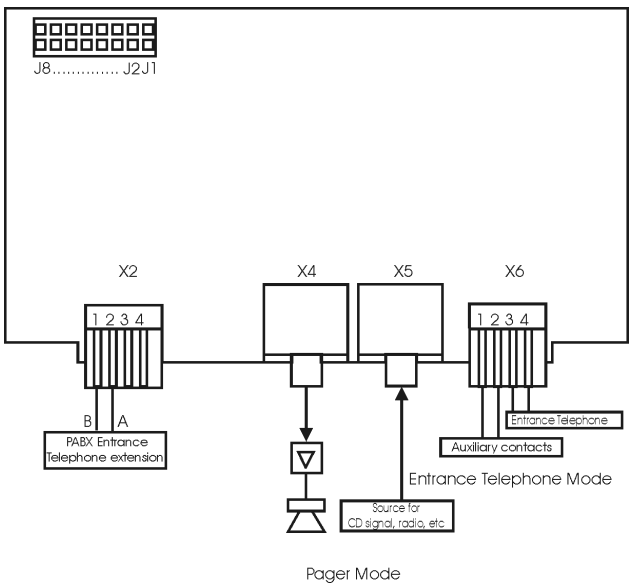


Figure 3-40 TFE Interface Overview - S30817-Q936-C282

- Each module of the TFE interface allows only one entrance telephone to be connected.
- Each TFE module works as an entrance telephone OR pager interface. To use both functions, two modules are required.

3.12 V.24 Adapter Cable

The V.24 serial interface module cannot be used if the system has an ADSL Module installed.

A V.24 adapter cable (S30122-x5468-x5-*) is used for connecting to a PC, a modem (for programming the system using the HiPath 1100 Manager software, and for enabling CTI features) or a printer (for printing call or configuration data).

Additional electronics built into the cables provide level adaptation. V.24 operation requires level adaptation.

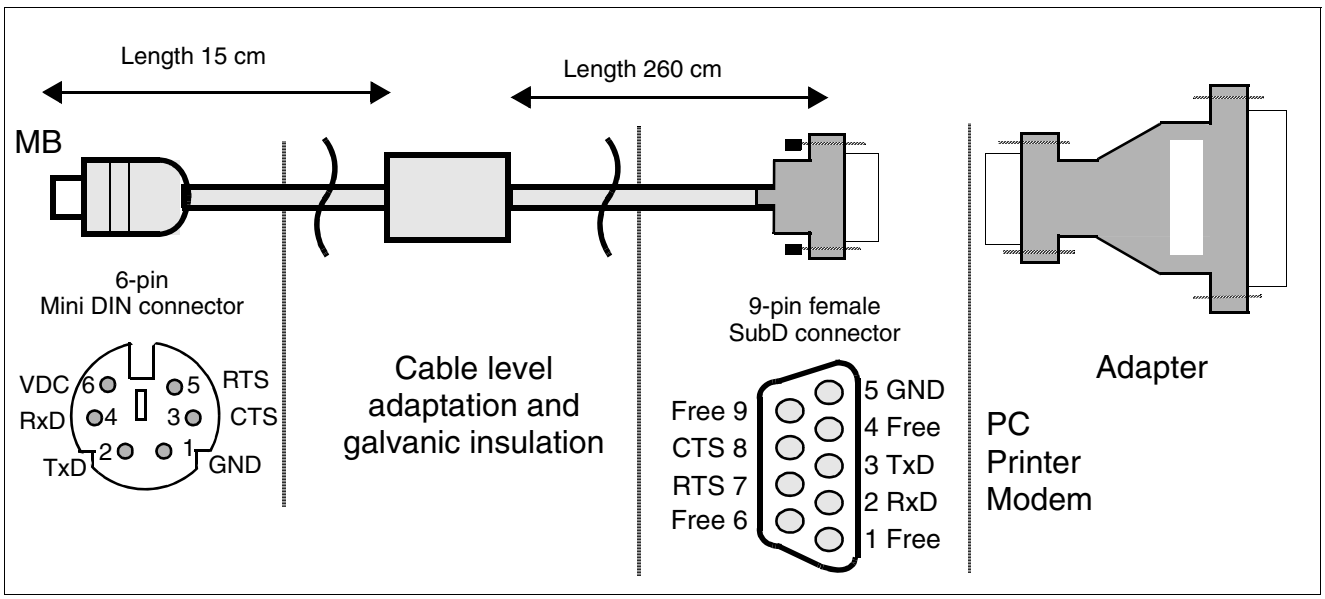


Figure 3-41 V.24 Adapter Cable Connection System

V.24 adapter cable signals

Pin	Signal
CTS	Clear To Send
GND	Ground
RTS	Request To Send
RxD	Receive Data
TxD	Transmit Data

Table 3-39 V.24 adapter cable signals

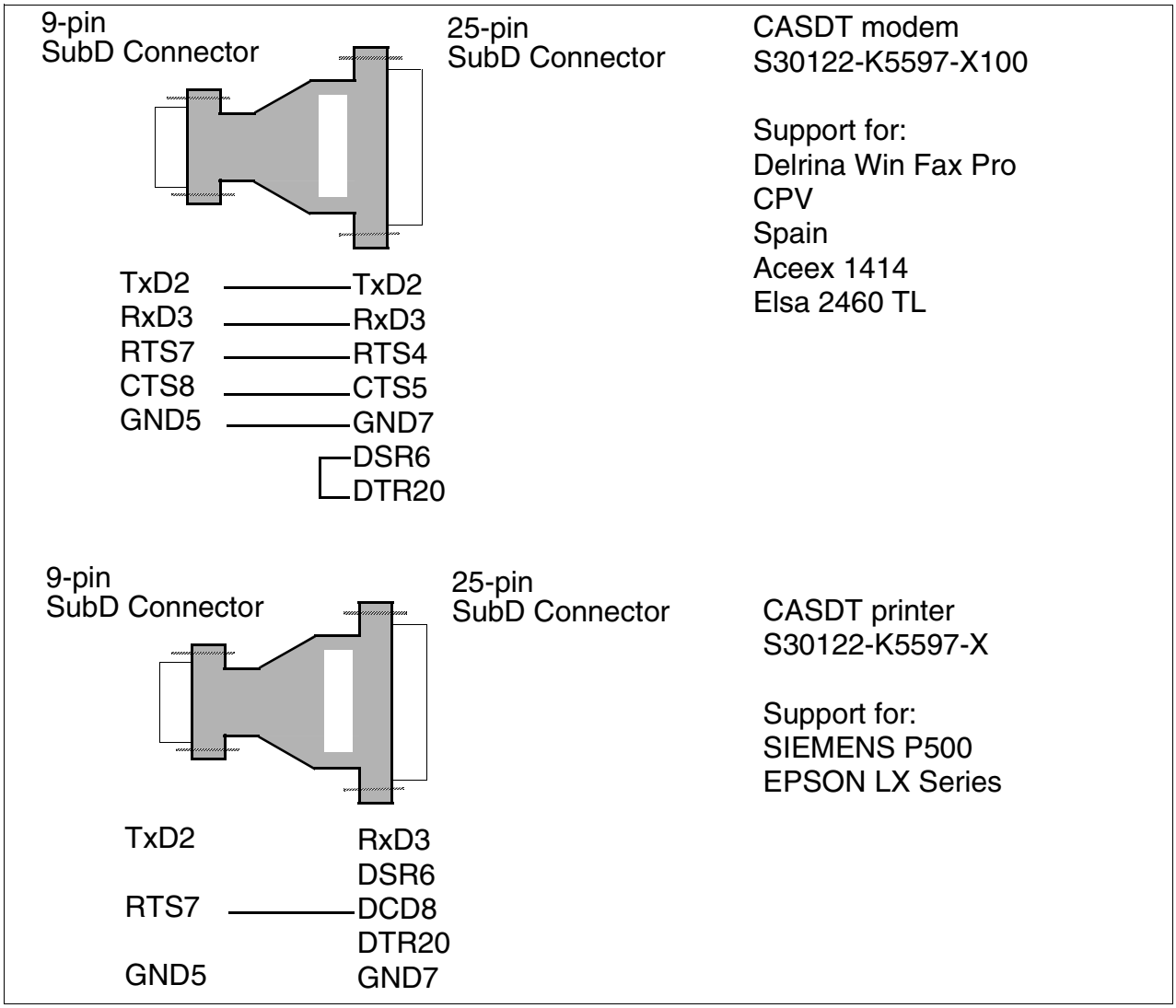


Figure 3-42 Modem and adapter connection system

3.13 USB adapter cable

An USB adapter cable is used for connecting to a PC or a modem (for programming the system using the HiPath 1100 Manager software, and for enabling CTI features).

Additional electronics in the cable (EN 60950-1) provide galvanic insulation between the HiPath and the PC. This product draws power from both the HiPath and a PC, and may therefore only be used on HiPath 1100 switches. A USB connection in other types of equipment will not work with this cable. Siemens does not recommend any other means of connecting the HiPath 1100 to the PC.

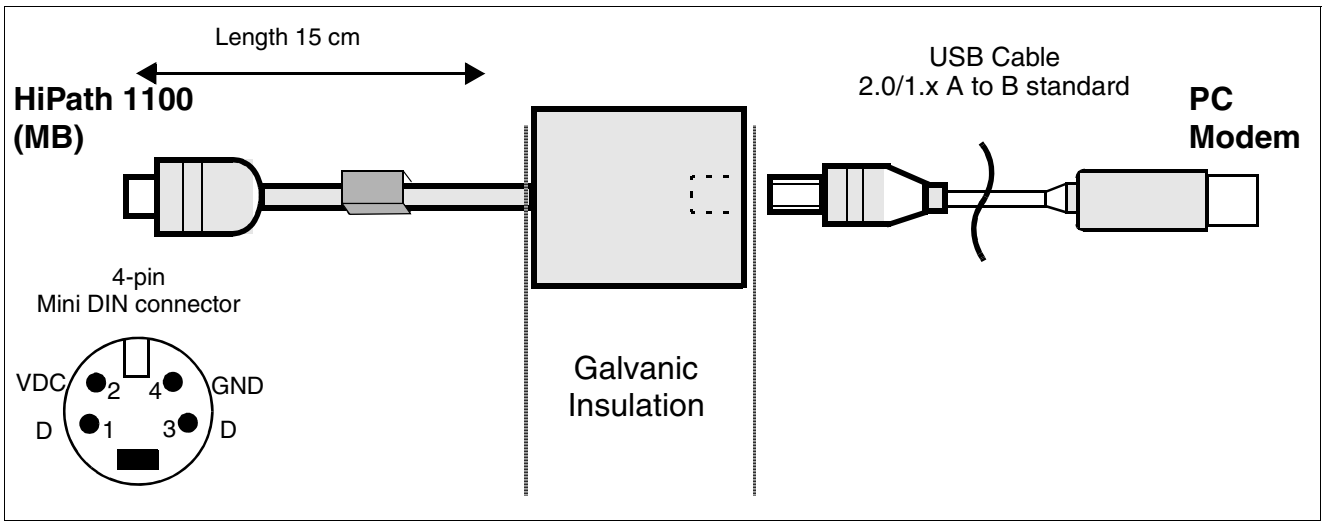


Figure 3-43 USB Adapter Cable Connection System

USB adapter cable signals

Pin	Signal
D^+ and D^-	Data, specifies communication speed
GND	Ground

Table 3-40 USB adapter cable signals

3.14 TME1 Serial Cable

The TME1 serial cable (C39195-A9700-B532-*) is used for connecting to a PC or modem in order to program the system using the E1 Trunk Manager tool.

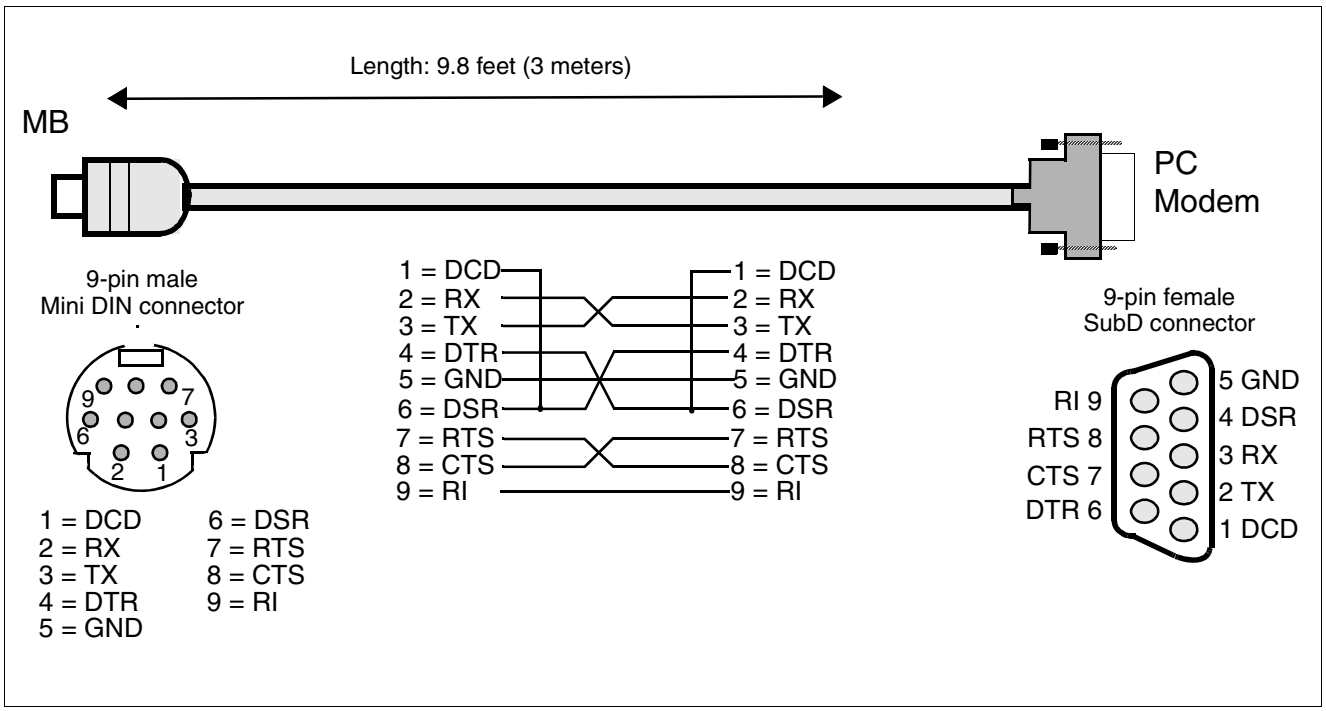


Figure 3-44 Serial cable connection to TME1

TME1 serial cable signals

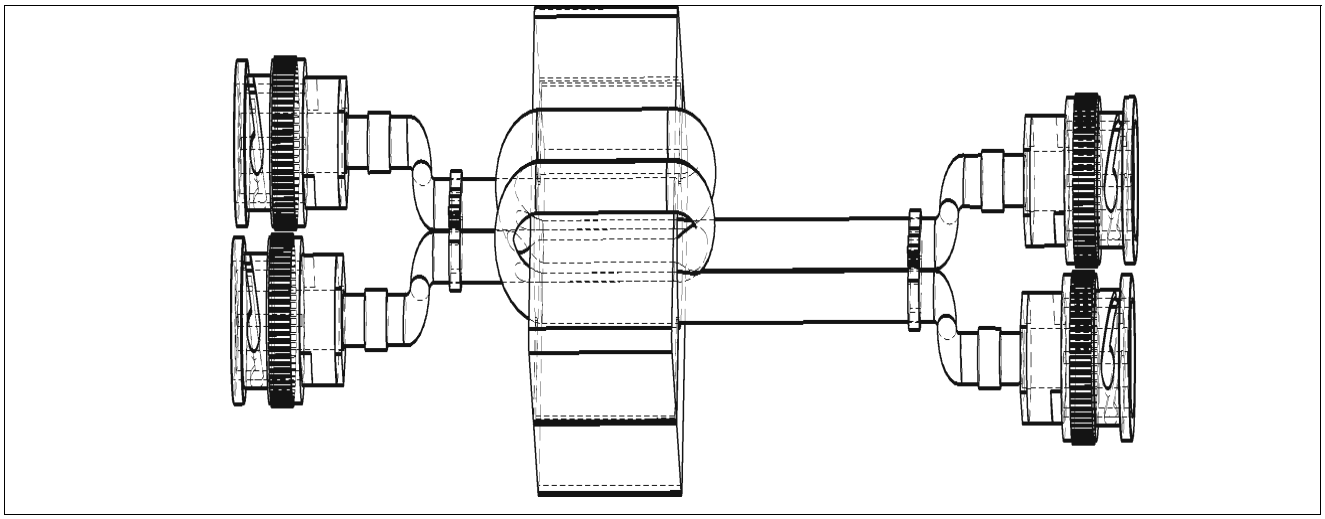
Pin	Signal
DCD	Date Carrier Detect
CTS	Clear To Send
DSR	Date Send Ready
DTR	Date Station Ready
GND	Ground
RTS	Request To Send
RX	Receive Data
TX	Transmit Data
RI	Ring indicator

Table 3-41 TME1 serial cable signals

3.15 TME1 Coax Cable

3.15.1 CAS Access

The TME1 coax cable (C39195-A9700-B531-*) is used for connecting the E1 interface to a modem.



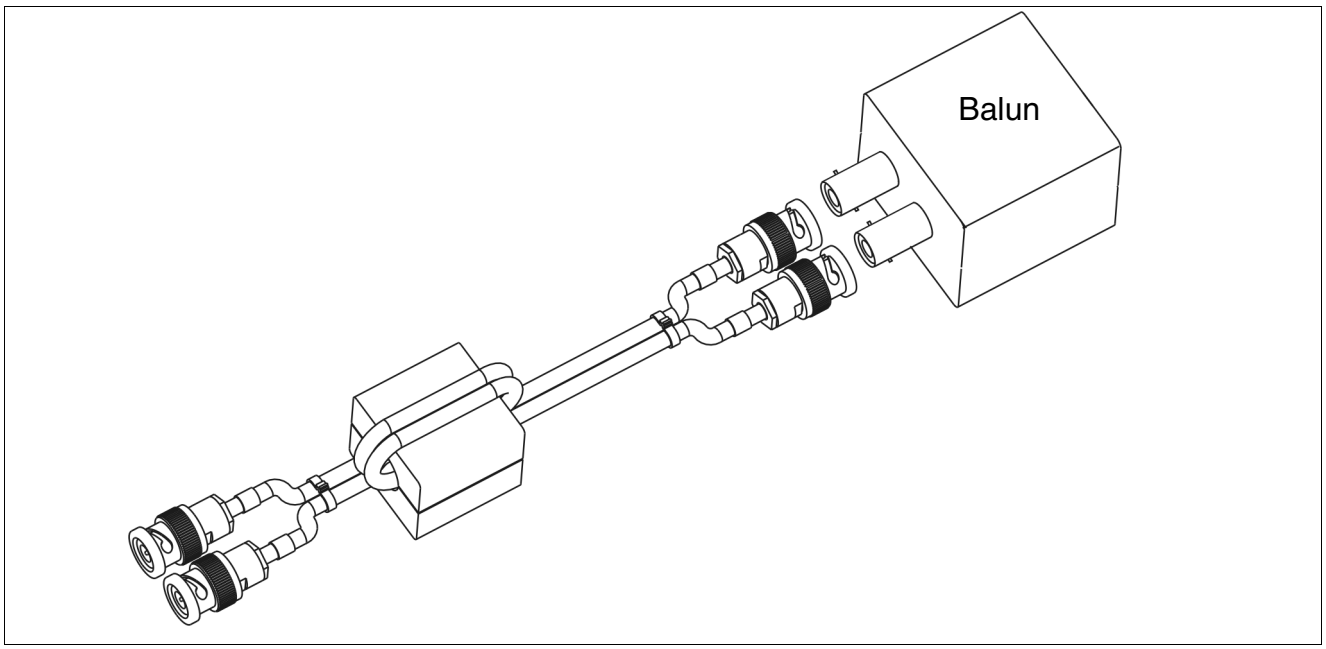
TME1 coax cable signals

Pin	Signal
RX	Receive Data
TX	Transmit Data

Table 3-42 TME1 coax cable signals

3.15.2 Access S2

The TME1 coax cable is used for connecting the S2 interface to a NT modem. A Balun adapter is required id there is an impedance differential between the module and the modem.



TME1 coax cable signals

Pin	Connector	Signal
RX	J1	Receive Data
TX	J2	Transmit Data

Table 3-43 TME1 coax cable signals

Balun

A Balun adapter is required on the TME1 coaxial cable when there is an impedance differentail between the TME1 module and the NT1 modem.

Technical Data

Speed	up to 2,048 Mbps
Insulation	100V
Connectors	Coax (Interface A): Dual BNC F(RG 59) Twister - pair (Interface B): 8-pin shielded RJ 45
Temperature Range	0 to 50 degrees Celsius
Transmission Line	ITU CTR -12 G.703
Humidity Range	5 to 95%

Table 3-44 Balun Technical

4 Installation

4.1 HiPath 1100 Installation

About this Chapter

This chapter contains information on:

- HiPath 1100 System Setup. More information on additional equipment and expansions can be found in the “List of Modules” on page 3-2;
- Configuration (installation of modules).

Danger

Only authorized technical personnel should install this system.

Tools and Equipment Required

The following tools are required for installing a HiPath 1100 system:

- Cutters and flat nose pliers
- Standard screwdriver
- Phillips screwdriver
- Tool for attaching wires to the Main Distribution Frame
- Drill
- Hammer
- Level
- Tape measure
- Digital multimeter for checking power and ground connections.

4.2 Installation Procedures

Warning

Before installing the equipment, read carefully all information and recommendations provided in Chapter 1, "Important Information"

When connecting to live terminal equipment lines powered by an external AC power source, the maximum number of terminal equipment allowed is 14 per system. Exceeding this limit may damage the equipment and present a hazard to the safety of the user.

Step	Installation Procedures (Information)	
1.	"Select the location for installing the equipment" (Usually already setup)	4-4
2.	"Unpacking System Components"	4-4
3.	"Getting to Know your Systems"	4-5
4.	"HiPath1120/1150 Wall Mounting Instructions"	4-14
5.	"Installation of Expansion and Option Modules"	4-15
6.	"Connecting Extensions to the System's Internal MDF (Main Distribution Frame)"	4-38
7.	"Installing a V.24 Interface"	4-46
8.	"Installing an USB Interface"	4-47
9.	"Installing an External Audio Source"	4-50
10.	"Installing a TFE - Entrance Telephone Interface"	4-50
11.	"Recommendations concerning the Power Supply and Protection of the System"	4-52
12.	"Protective Power Outage Relays"	4-55
13.	"System Cabling"	4-56
14.	"Installing Telephone Terminals"	4-56
15.	"Performing a Visual Inspection"	4-59

Table 4-1 HiPath 1100 - Equipment installation procedures

Caution

Always use an anti-static wrist band when working with the HiPath 1100 systems (particularly when handling the modules). Make sure the wrist band is grounded.

4.3 Select the location for installing the equipment

Installation Location

The system's installation site has been previously selected and agreed to by the client.

The following precautions must be taken:

- Do not expose the equipment to any external heat source (e.g., sunlight, heaters, etc.);
- Do not expose the equipment to excess dust
- Do not install the equipment in areas where there is a risk of condensation when the equipment is in use. If condensation occurs, dry the equipment before starting operation.
- Do not install inside closets.
- The power outlet for connecting the system's power supply must be located close to the equipment and must be easily accessible.
- Follow all environmental guidelines described in the chapter "System Data" (see "Environmental Conditions" on page 2-10).
- No wall-mounting on walls subjected to vibration.

Warning

When using the RSA version, extension lines with a C/D interface must only be installed indoors. Only regular extensions (without a C/D interface) can be installed outdoors.

Note 1: See Section "HiPath 1100 Configurations" on page 2-2 for more information regarding system configurations.

4.4 Unpacking System Components

Procedure

Step	Procedure
1.	Check to see that all components listed on the receipt are included in the package.
2.	Inspect all items for any damage that may have occurred during transportation. If any damage occurred, report it immediately to the place of purchase.

Step	Procedure
3.	Discard packaging materials according to local and federal environmental regulations.

Warning

Use only equipment and systems that are in perfect condition. Never operate a damaged system.

4.5 Getting to Know your Systems

4.5.1 HiPath 1120

Dimensions for the HiPath 1120

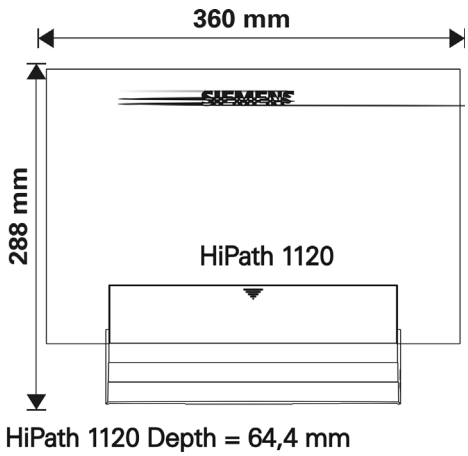


Figure 4-1 HiPath 1120 Dimensions

Opening the Main Distribution Frame

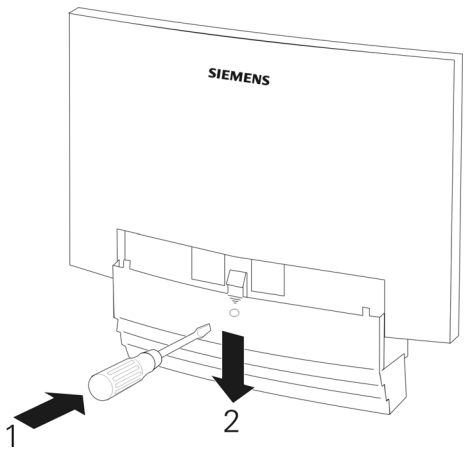


Figure 4-2 Opening the HiPath 1120 Main Distribution Frame

Components Location

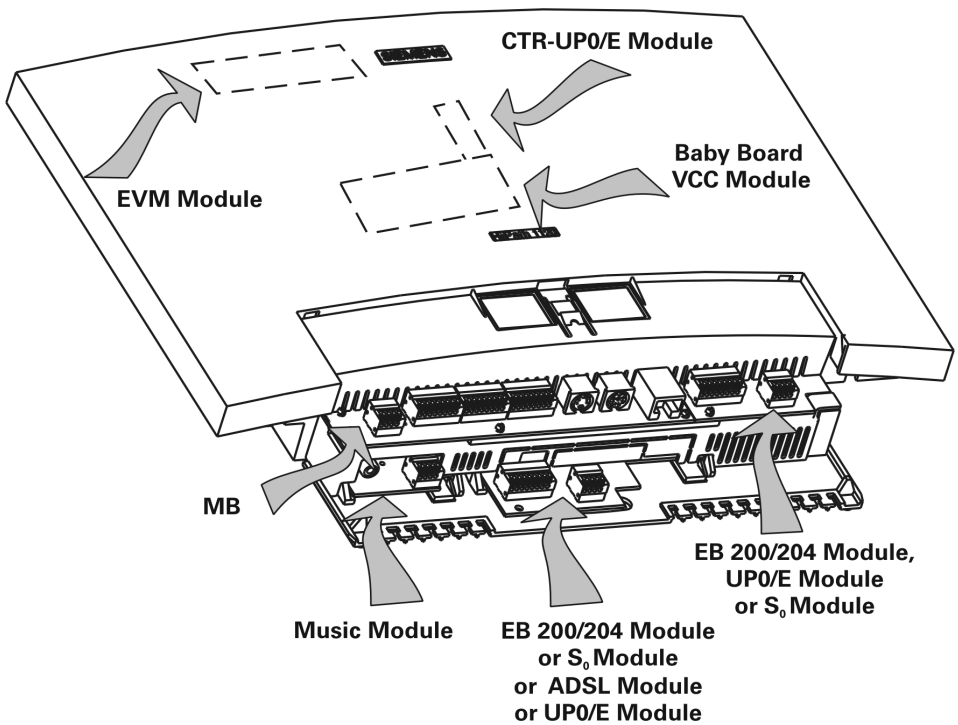


Figure 4-3 HiPath 1120 system installation overview

4.5.2 HiPath 1150

The enclosures of the HiPath 1150 systems are very similar in design. Look for the number indicated on each module before connecting it.

Dimensions for the HiPath 1150

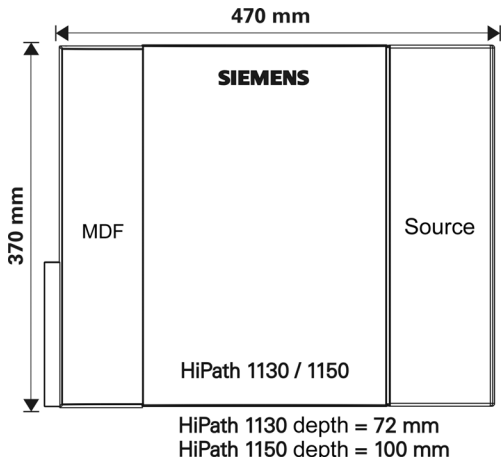


Figure 4-4 DimensionsHiPath 1150

Components Location

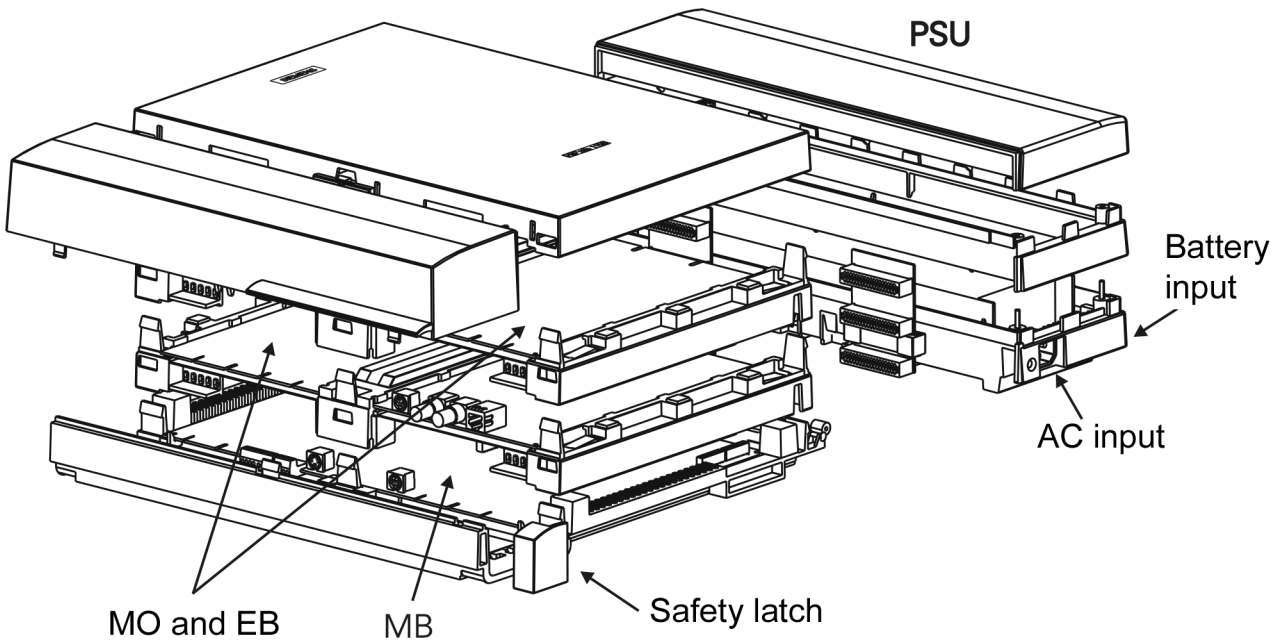


Figure 4-5 HiPath 1150 system installation overview

Opening the Main Distribution Frame

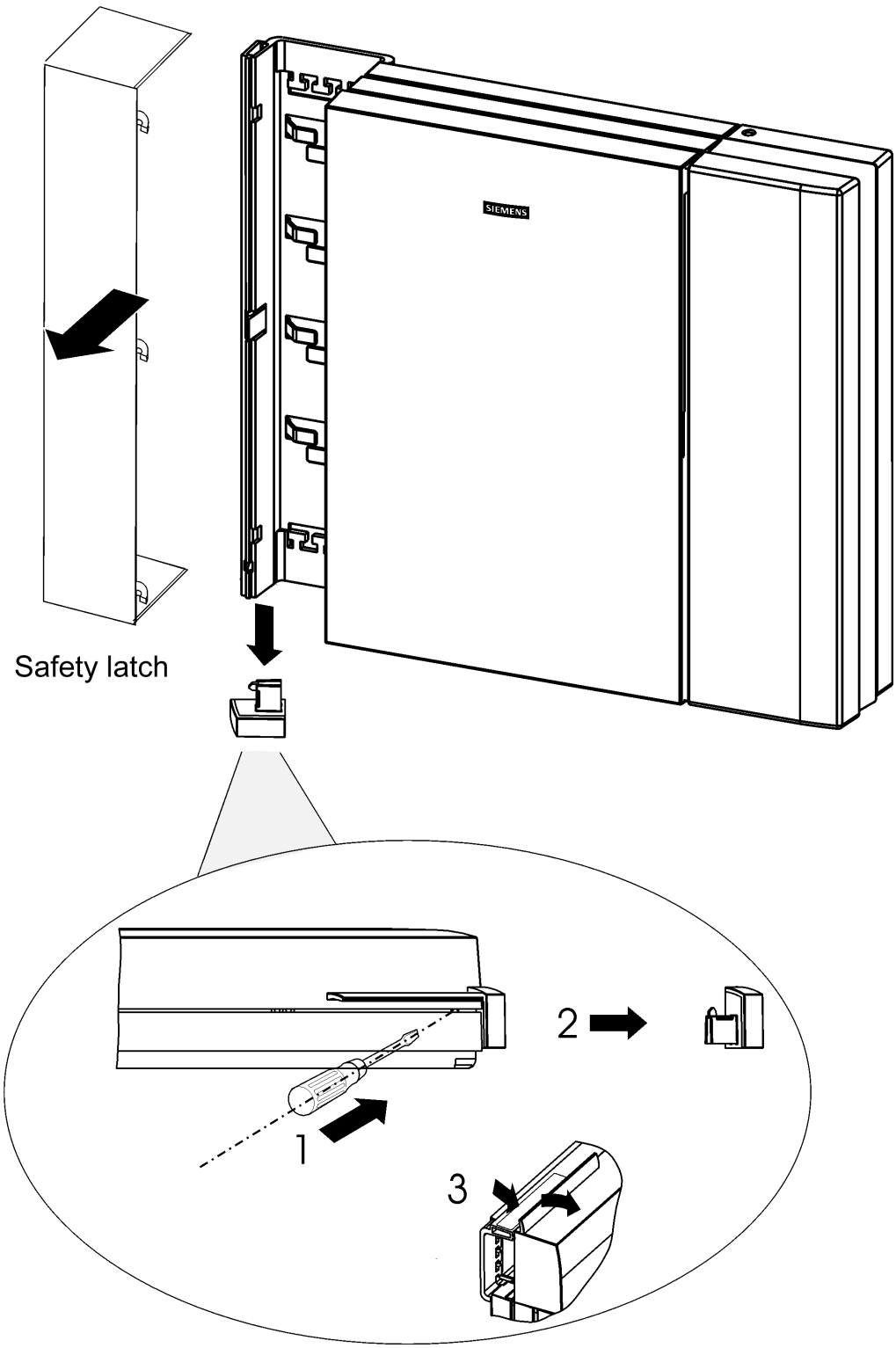


Figure 4-6 Opening the HiPath 1150 Main Distribution Frame

4.5.3 HiPath 1190/1190R

The HiPath 1190 and HiPath 1190R systems are identical, except for a “side tab” on the HiPath 1190R model, which is used for attaching a 19” rack, and the fact that there are no side covers.

Dimensions for the HiPath 1190/1190R

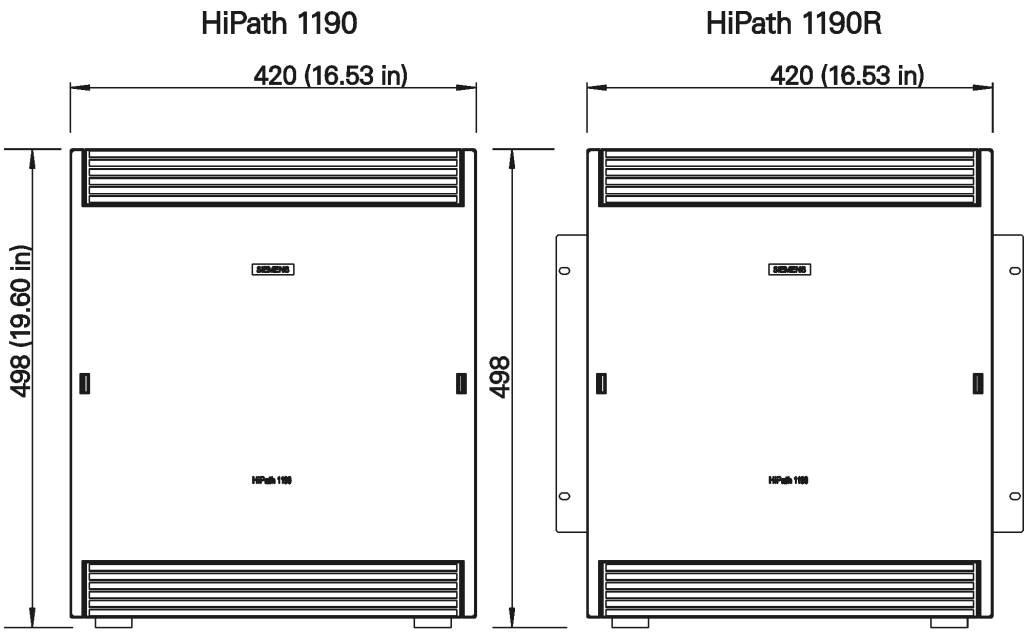


Figure 4-7 DimensionsHiPath 1190/1190R

Opening the System

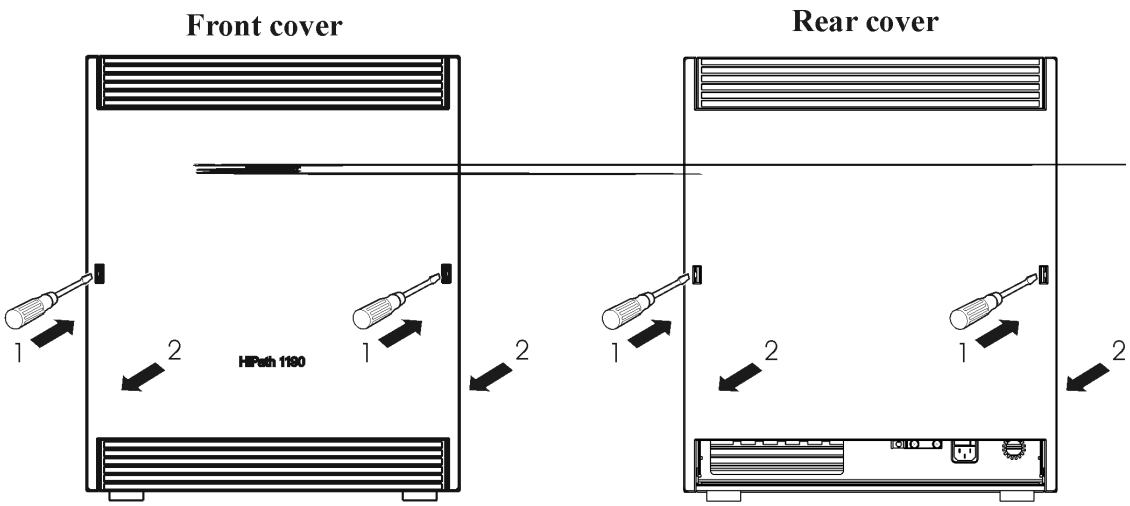


Figure 4-8 Opening the HiPath 1190/1190R

Procedure for Opening the System's Cabinet

Step	Procedure
1.	Insert screwdriver as shown above.
2.	Use the screwdriver as shown to remove the cover.

Components Location

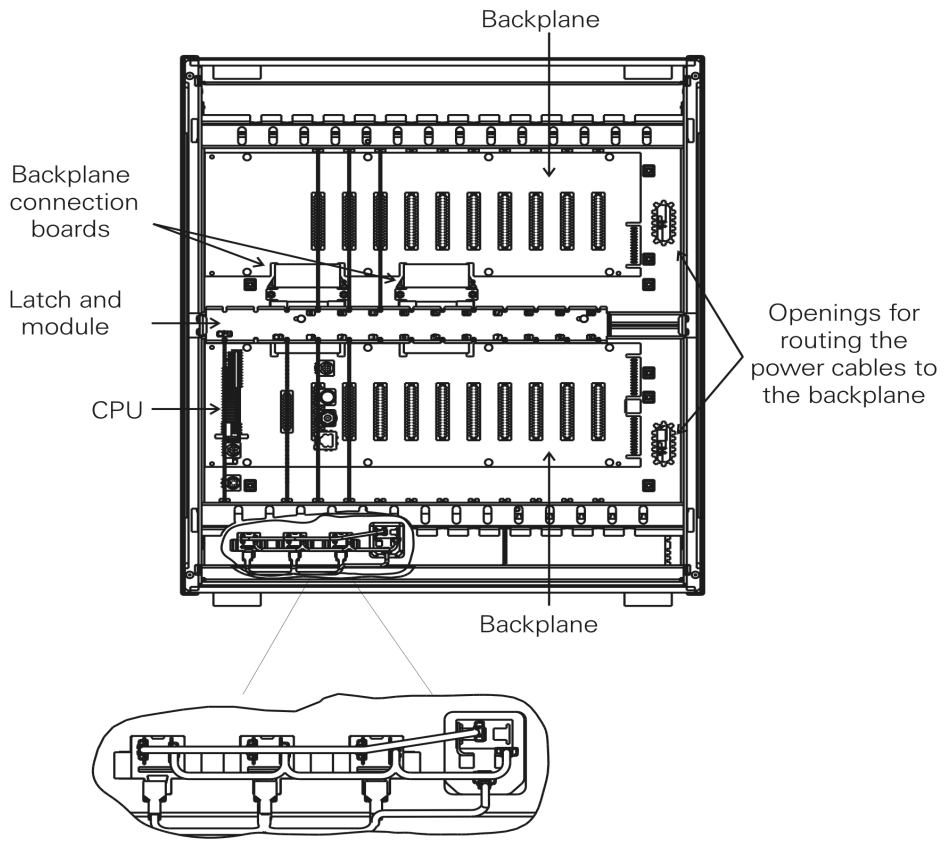


Figure 4-9 HiPath 1190/1190R front view

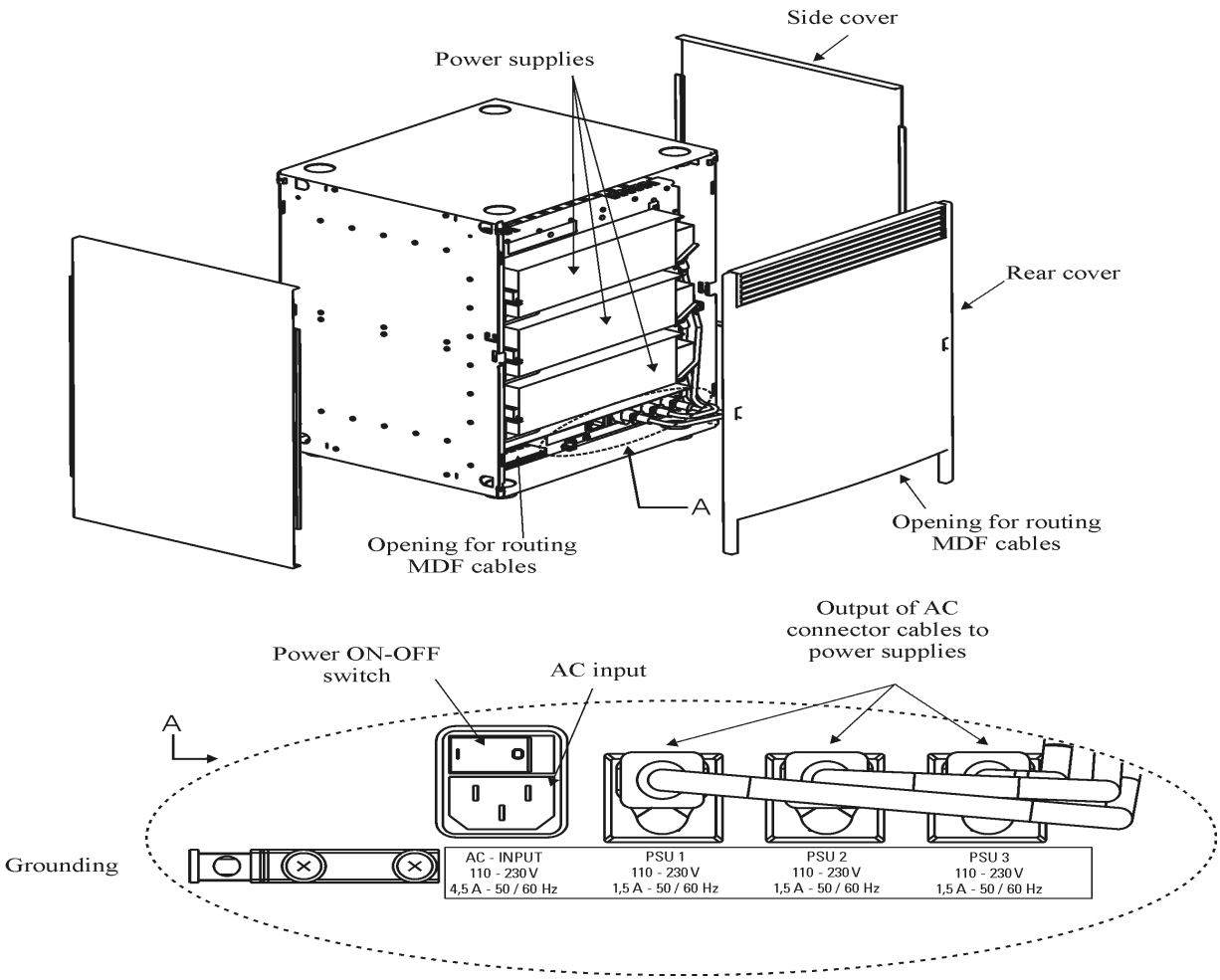


Figure 4-10 HiPath 1190/1190R back view

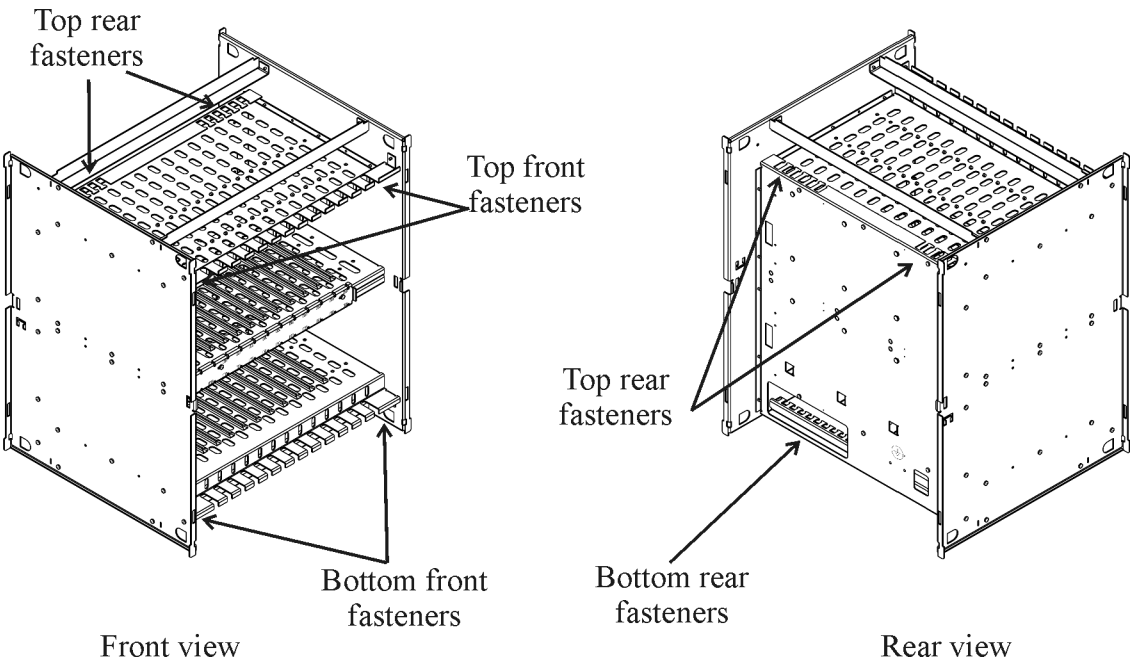


Figure 4-11 HiPath 1190/1190R cable anchors

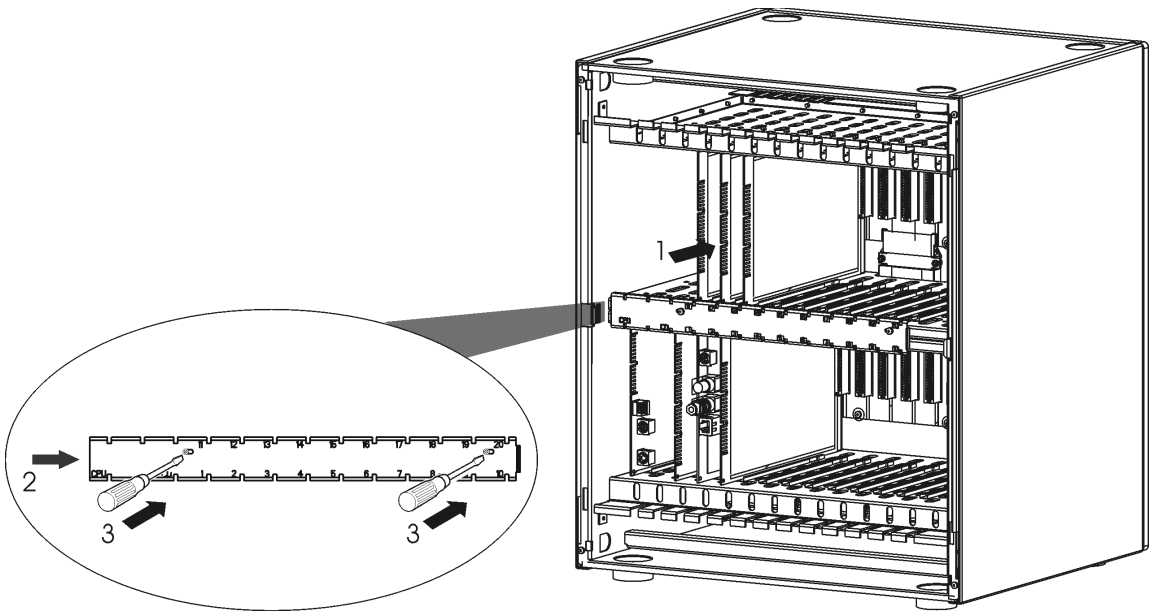


Figure 4-12 Installing modules on the HiPath 1190/1190R systems

Module Installation Procedure

Step	Procedure
1.	Insert module into the appropriate slot.
2.	Move the latch to the right to secure each module in place.
3.	Secure each latch using the screws.
4.	Use the reverse procedure to remove the modules.

Installation on a 19" Rack

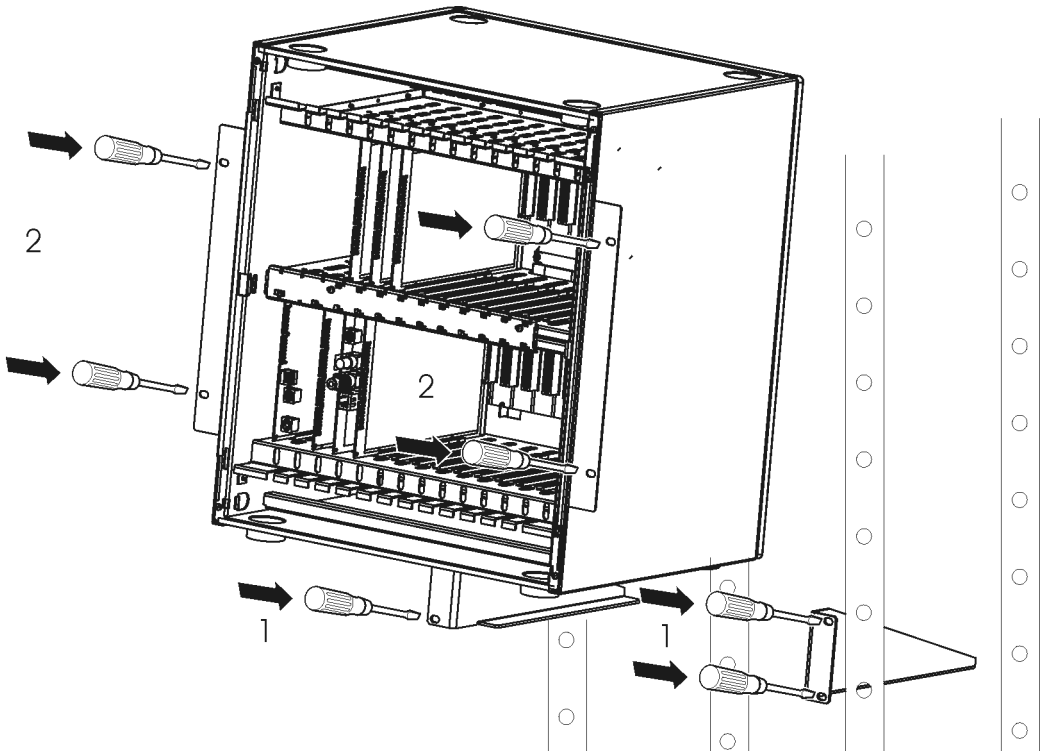


Figure 4-13 Installing the HiPath 1190R on a 19" rack

Rack-Mounting Procedure

Step	Procedure
1.	Install the system's brackets on the 19" rack using the screws as shown.
2.	Insert the switch into the 19" rack.
3.	Secure the switch on the 19" rack using the screws.

4.6 HiPath1120/1150 Wall Mounting Instructions

Step	Procedure
1.	Drill a hole in the wall at a height of 4.10 ft (1.25 m) from the floor.
2.	Place the bushing over the hole then insert the screw and tighten it until only 0.19" (5 mm) protrude.
3.	Hang the system at the top of ①, on the screw (see Figure 4-14 and Figure 4-15).
4.	Mark additional holes for washers ② and remove the system.
5.	Drill the remaining holes as marked, install washers and screws, then tighten them letting 0.19" (5 mm) protrude.
6.	Hang the system again and align it by tightening the lower screws.

Back of the enclosures

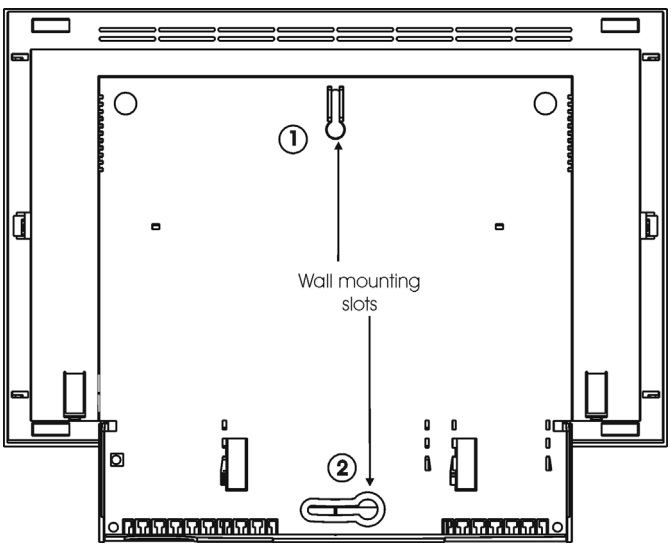


Figure 4-14 Mounting HiPath 1120 on the wall

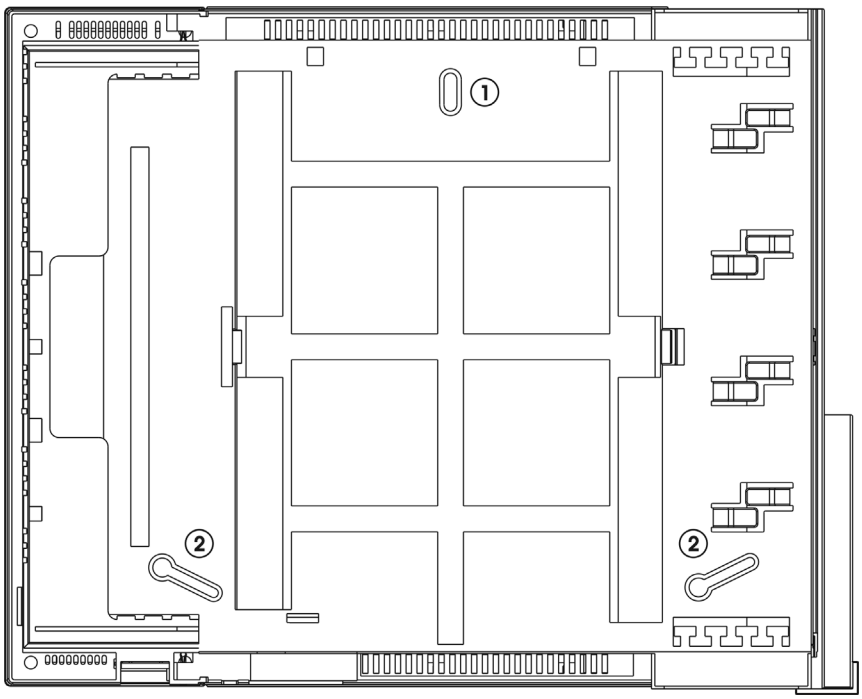


Figure 4-15 Mounting HiPath 1150 on the wall

4.7 Installation of Expansion and Option Modules

Installation Information

HiPath 1120 system MB and modules are interconnected using one flat cable (or two) and/or a pin connector. In the HiPath 1150/1190/1190R systems, the modules are interconnected through the backplane connector.

For information on how to expand your system, see “Limitations to System Expansion” on page 2-5.

Warning

Insert modules only when the power supply is turned OFF.

4.7.1 Location of the Modules in the On the

4.7.1.1 On the HiPath 1120

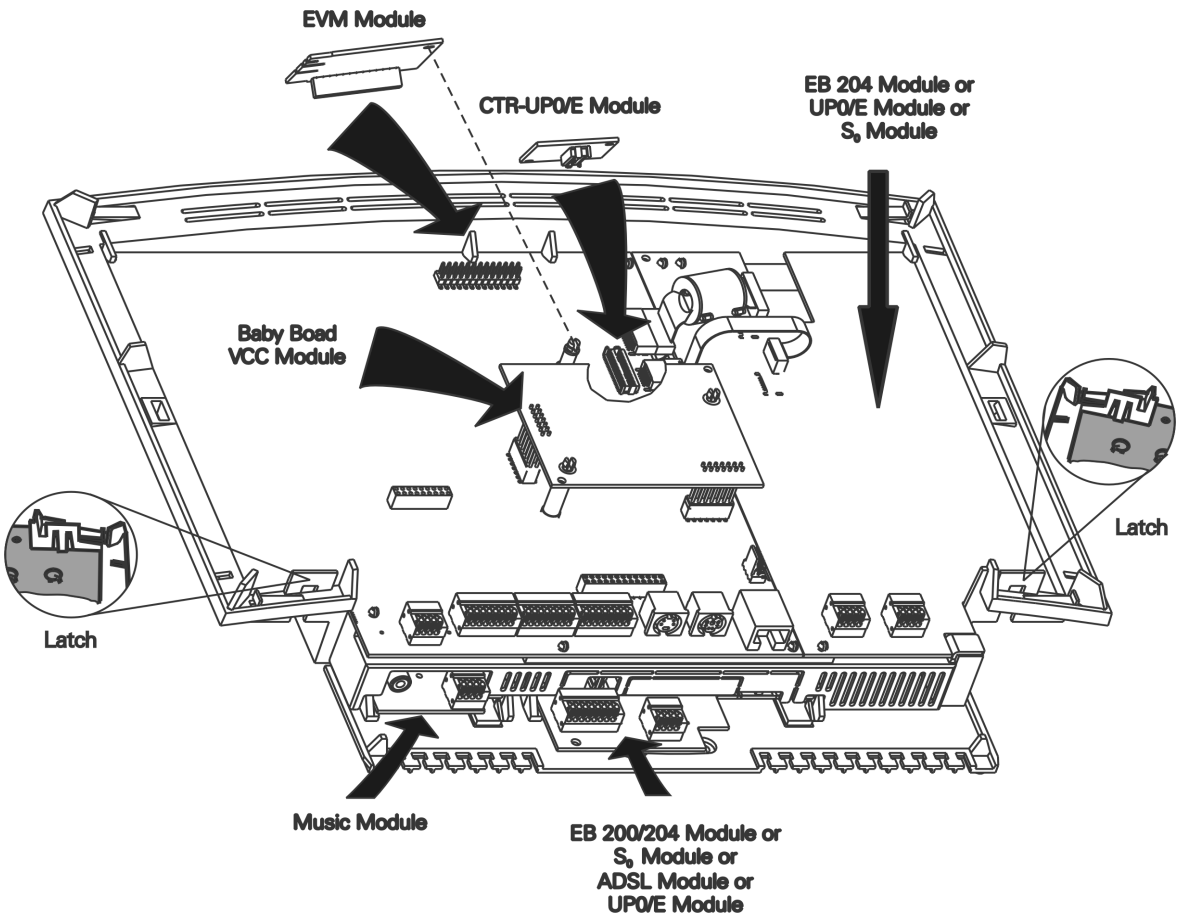


Figure 4-16 Location of the Modules in the HiPath 1120

CND Version

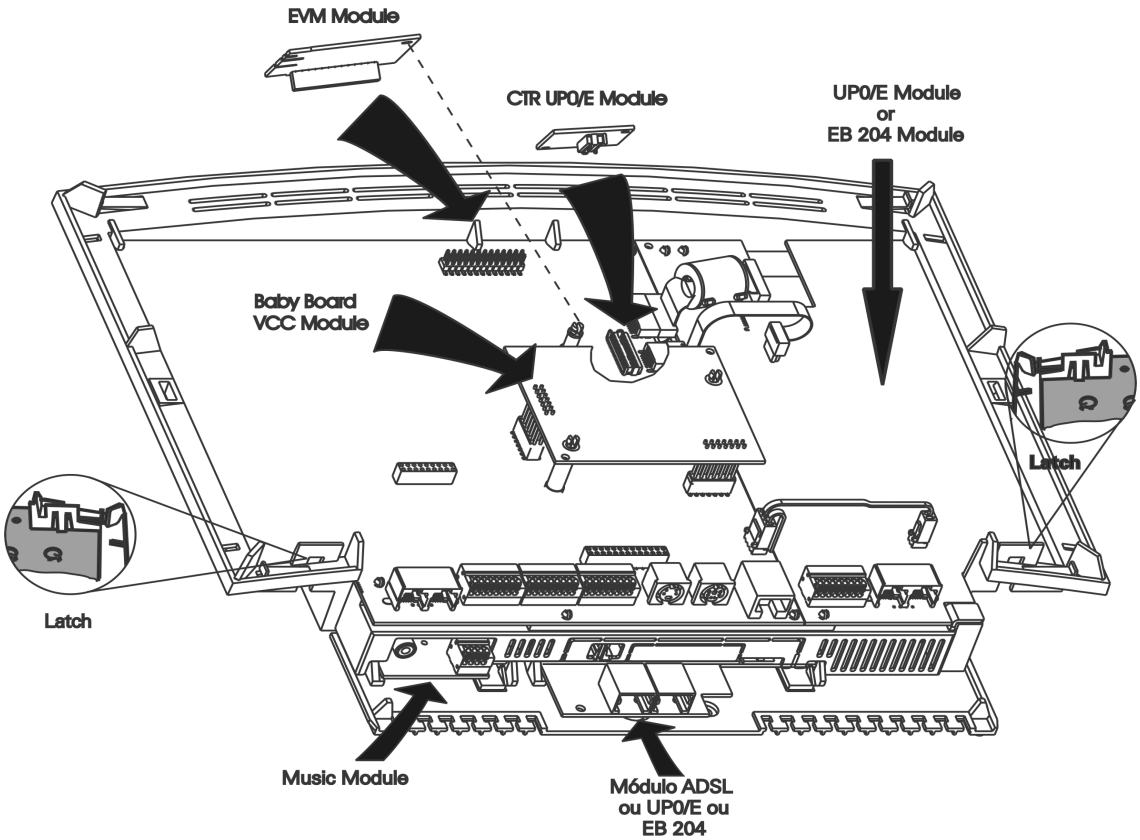


Figure 4-17 Location of the Modules in the HiPath 1120 - CND

4.7.1.2 On the HiPath 1150

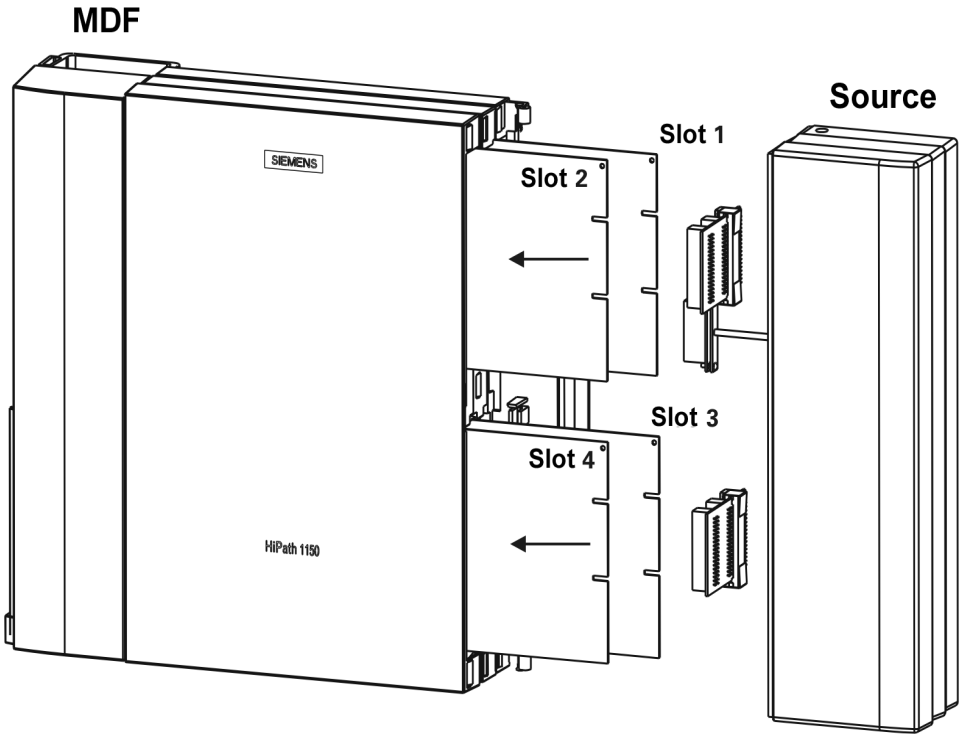


Figure 4-18 Location of the Modules in the HiPath 1150

Table 4-2 shows the modules and the slots where they can be installed with respect to each system's limitations.

HiPath 1150		HiPath 1150	
Slot 1	**Type of Module**	**Slot 2**	**Type of Module**
Expansion Modules	EB 010	**Expansion Modules**	EB 010
	EB 012		EB 012
	EB 202		EB 202
	EB 206		EB 206
	EB 210		EB 210
	EB 200		EB 200
	EB 400		EB 400
	EB 800		EB 800
Option Modules	$U_{P0/E}$ Module	**Option Modules**	$U_{P0/E}$ Module

Slot 3	Type of Module	Slot 4	Type of Module
Expansion Modules	EB 010	**Expansion Modules**	EB 010
	EB 012		EB 012
	EB 202		EB 202
	EB 206		EB 206
	EB 210		EB 210
	EB 200		EB 200
	EB 400		EB 400
	EB 800		EB 800
Option Modules	S_0 Module	**Option Modules**	ADSL Module
	ADSL Module		
	TME1 Module		

Table 4-2 Slot / Type of module for the HiPath 1150

4.7.1.3 On the HiPath 1190/1190R

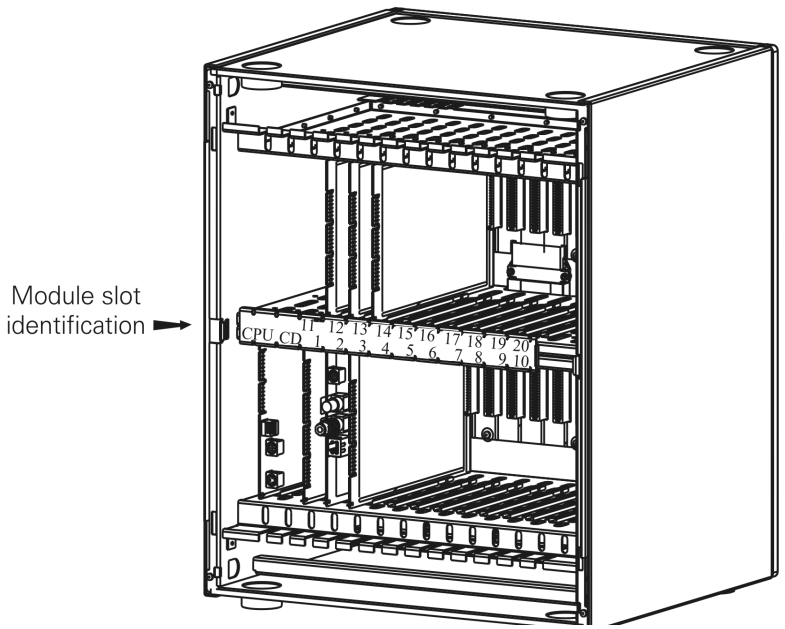


Figure 4-19 Location of the Modules in the HiPath 1190/1190R

Table 4-3 shows the modules and their slots on HiPath 1190 andHiPath 1190R (see “Limitations to System Expansion” on page 2-5):

Slot 1	Type of Module	Slot 2	Type of Module
Expansion Modules	EB 010	Expansion Modules	EB 010
	EB 012		EB 012
	EB 202		EB 202
	EB 206		EB 206
	EB 210		EB 210
	EB 200		EB 200
	EB 400		EB 400
	EB 800		EB 800
Option Modules	S_0 Module	Option Modules	ADSL Module
	TME1 Module		
Slot 3	**Type of Module**	**Slot 4**	**Type of Module**
Expansion Modules	EB 010	Expansion Modules	EB 010
	EB 012		EB 012
	EB 202		EB 202
	EB 206		EB 206
	EB 210		EB 210
	EB 200		EB 200
	EB 400		EB 400
	EB 800		EB 800
Option Modules	$U_{P0/E}$ Module	Option Modules	$U_{P0/E}$ Module
Slot 5	**Type of Module**	**Slot 6 and 7**	**Type of Module**
Expansion Modules	EB 010	Expansion Modules	EB 010
	EB 012		EB 012
	EB 202		EB 202
	EB 206		EB 206
	EB 210		EB 210
	EB 200		EB 200
	EB 400		EB 400
	EB 800		EB 800

Slot 8	Type of Module	Slot 9 and 10	Type of Module
Expansion Modules	EB 010	Expansion Modules	EB 010
	EB 012		EB 012
	EB 202		EB 202
	EB 206		EB 206
	EB 210		EB 210
	EB 200		EB 200
	EB 400		EB 400
	EB 800		EB 800
Slot 11	**Type of Module**	**Slot 12**	**Type of Module**
Expansion Modules	EB 010	Expansion Modules	EB 010
	EB 012		EB 012
	EB 202		EB 202
	EB 206		EB 206
	EB 210		EB 210
	EB 200		EB 200
	EB 400		EB 400
	EB 800		EB 800
Option Modules	S_0 Module		
	TME1 Module		
Slot 13 and 14	**Type of Module**	**Slot 15**	**Type of Module**
Expansion Modules	EB 010	Expansion Modules	EB 010
	EB 202		EB 012
	EB 206		EB 202
	EB 200		EB 206
	EB 400		EB 210
	EB 800		EB 200
			EB 400
			EB 800

Slot 16 and 17	Type of Module	Slot 18	Type of Module
Expansion Modules	EB 010	Expansion Modules	EB 010
	EB 202		EB 012
	EB 206		EB 202
	EB 200		EB 206
	EB 400		EB 210
	EB 800		EB 200
			EB 400
			EB 800
Slot 19 and 20	**Type of Module**		
Expansion Modules	EB 010		
	EB 202		
	EB 206		
	EB 200		
	EB 400		
	EB 800		

Table 4-3 Slot / Type of module on HiPath 1190/1190R systems

Note: The CD module and MB have fixed slots in the HiPath 1190/1190R systems, which are marked on the modules latch (Figure 4-19 on page 4-19 and Figure 4-9 on page 4-10).

4.7.2 Installing Modules

4.7.2.1 On the HiPath 1120

Installation Procedures

Step	Procedure
1.	Turn off the power supply.
2.	Remove the system's cover
3.	Insert the module into one of the slots shown in Figure 4-16.
4.	Connect the module to the MB using the flat cable on the top slot. In the CND version, the EB module and the motherboard must be connected using a power/connection cable.
5.	To install an ADSL or MOH module on the bottom slot lift the top slot and use the pin connector to make the connection. For all other modules use flat cable.
6.	Connect to modules MDF connectors (see Figure 4-32).
7.	Reassemble the entire set.
8.	"Performing a Visual Inspection" on page 4-59.
9.	Turn on the power supply.
10.	Configure the required data (see "Operation" on page 6-1).

4.7.2.2 On the HiPath 1150

Installation Procedures

Step	Procedure
1.	Remove the power supply.
2.	Remove the backplane.
3.	Insert the module into one of the slots shown in Figure 4-18.
4.	Connect to modules MDF connectors (see Figure 4-34).
5.	Reassemble the entire set.
6.	"Performing a Visual Inspection" on page 4-59.
7.	Turn on the power supply.

Step	Procedure
8.	Configure the required data (see “Operation” on page 6-1).

4.7.2.3 On the HiPath 1190/1190R

Installation Procedures

Step	Procedure
1.	Turn off the power supply.
2.	Remove the system’s front cover.
3.	Remove the system’s back cover.
4.	Move the module’s latch as shown in Figure 4-12.
5.	Insert the module into one of the slots shown in Table 4-2.
6.	Move the module’s latch back to secure module.
7.	Connect the Main Distribution Frame cables as follows: For modules allocated to the system’s bottom slots (slots 1 to 10) use the bottom opening (see Figure 4-10). For modules allocated to the system’s top slots (slots 11 to 20) route the cables through the top anchors (see Figure 4-11).
8.	Connect to the appropriate module connectors (see “Expansion Modules (EB)” on page 3-19).
9.	Attach cables to anchors using plastic brackets.
10.	“Performing a Visual Inspection” on page 4-59.
11.	Reassemble the entire set.
12.	Turn on the power supply.
13.	Configure the required data (see “Operation” on page 6-1).

4.7.3 Installing a TME1 Module

Warning

Remember to set the DIP switches (see “TME1 Module” on page 3-33).

4.7.4 Installing an ADSL Module

Installation Procedures

Step	Procedure
1.	Connect the carrier's ADSL line to slot 1 and 2 of the X2 connector (voice output). In the CND version, connect the carrier's ADSL line to slot 1 of the X2 connector.
2.	Connect slots 3 and 4 of the X2 connector to the external line input for the HiPath 1100. In the CND version, connect to slot 2 of the X2 connector.
3.	Connect your network cables to the HUB (J3, J5, J6 and J7 connectors).

4.7.5 Installing an EVM Module

4.7.5.1 On the HiPath 1120

Installation Procedures

Step	Procedure
1.	Turn off the power supply.
2.	Remove the system's cover
3.	Attach the separator provided with the module to the MB.
4.	Attach the module to the MB's pin connector and to the separator.
5.	Reassemble the entire set.
6.	"Performing a Visual Inspection" on page 4-59.
7.	Turn on the power supply.
8.	Configure the required data (see "Operation" on page 6-1).

Assembly Diagram

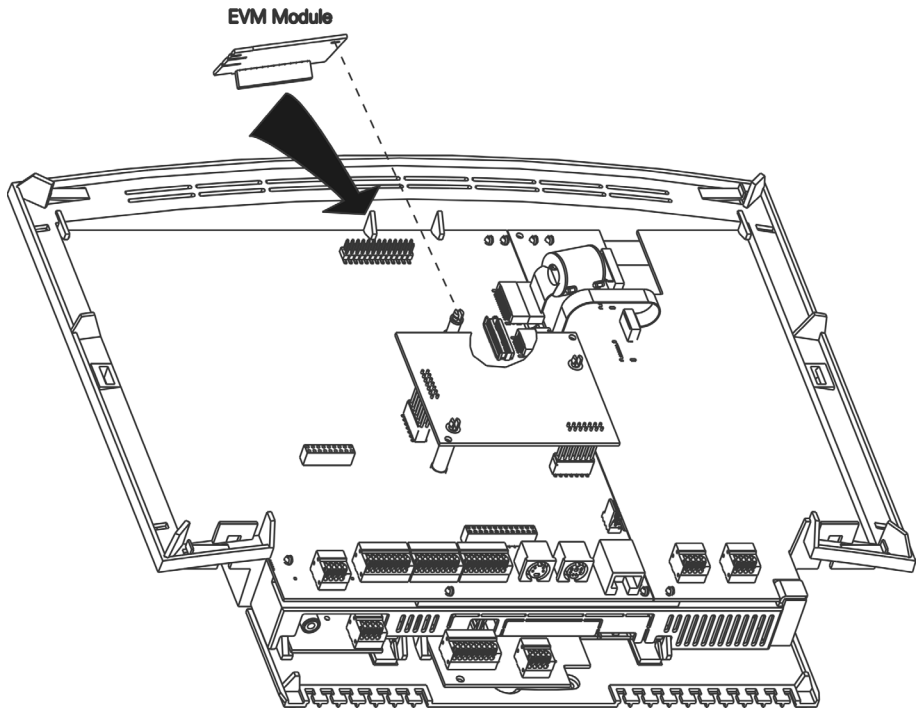


Figure 4-20 Installing an EVM Module HiPath 1120

4.7.5.2 On the HiPath 1150

Installation Procedures

Step	Procedure
1.	Remove the power supply.
2.	Remove the Main Distribution Frame's cover.
3.	Remove the backplane.
4.	Remove the slots above the MB.
5.	Attach the separator provided with the module to the MB.
6.	Attach the module to the MB's pin connector and to the separator.
7.	Reassemble the entire set.
8.	"Performing a Visual Inspection" on page 4-59.
9.	Turn on the power supply.
10.	Configure the required data (see "Operation" on page 6-1).

Assembly Diagram

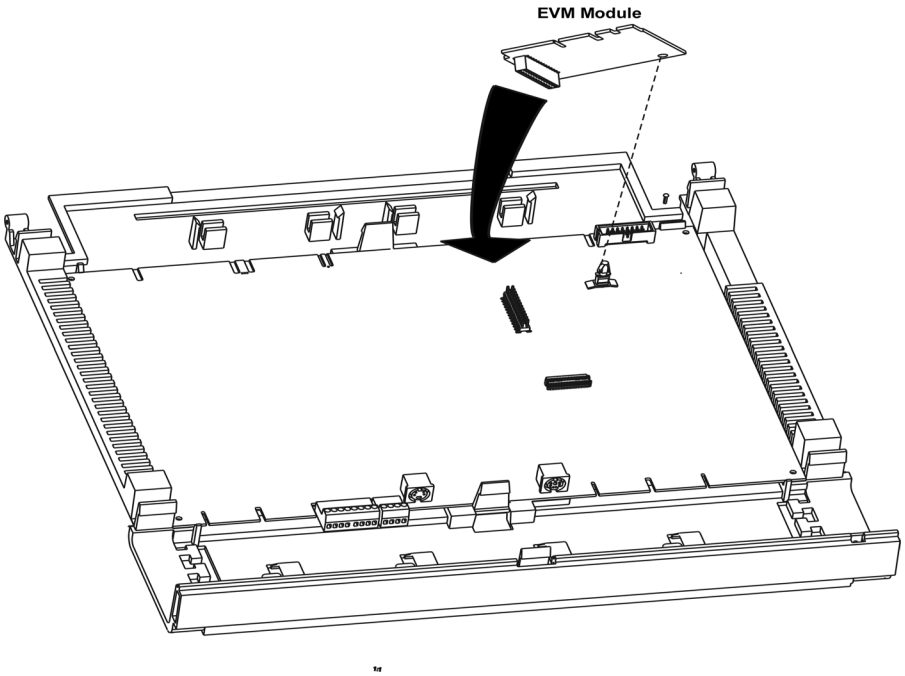


Figure 4-21 Installing an EVM Module HiPath 1150

4.7.5.3 On the HiPath 1190/1190R

Installation Procedures

Step	Procedure
1.	Turn off the power supply.
2.	Remove the system's front cover.
3.	Disconnect the Main Distribution Frame's cables from the MB.
4.	Move the module's latch as shown in Figure 4-12.
5.	Remove the MB.
6.	Attach the separator provided with the EVM module to the MB.
7.	Attach the module to the MB's pin connector and to the separator.
8.	Insert the MB into the system.
9.	Move the module latch back to secure module.
10.	Connect the Main Distribution Frame's cables.

Step	Procedure
11.	Reassemble the entire set.
12.	“Performing a Visual Inspection” on page 4-59.
13.	Turn on the power supply.
14.	Configure the required data (see “Operation” on page 6-1).

Assembly Diagram

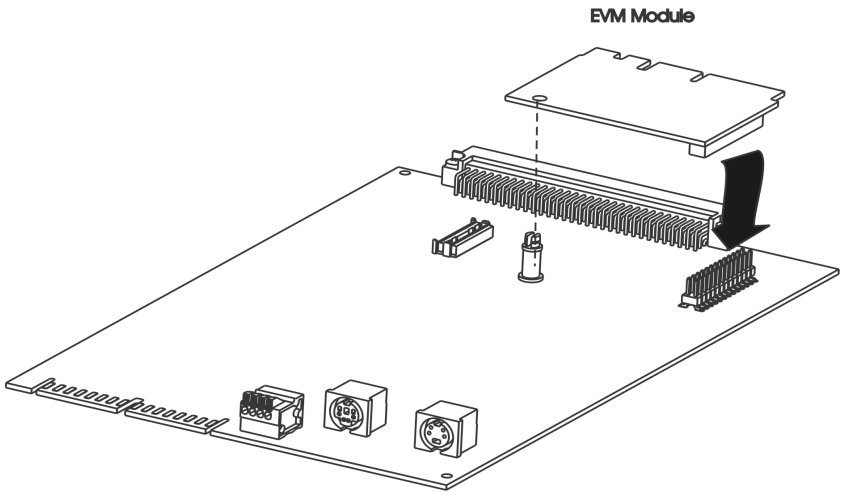


Figure 4-22 Installing an EVM Module on the HiPath 1190/1190R

4.7.6 Installing a Baby Board VCC Module (Voltage Conditioner Circuitry)

4.7.6.1 On the HiPath 1120

Installation Procedures

Step	Procedure
1.	Turn off the power supply.
2.	Remove the system's cover
3.	Attach the separators provided with the module to the MB.
4.	Attach the module to the MB's pin connector and to the separator.
5.	Reassemble the entire set.
6.	"Performing a Visual Inspection" on page 4-59.
7.	Turn on the power supply.
8.	Configure the required data (see "Operation" on page 6-1).

Assembly Diagram

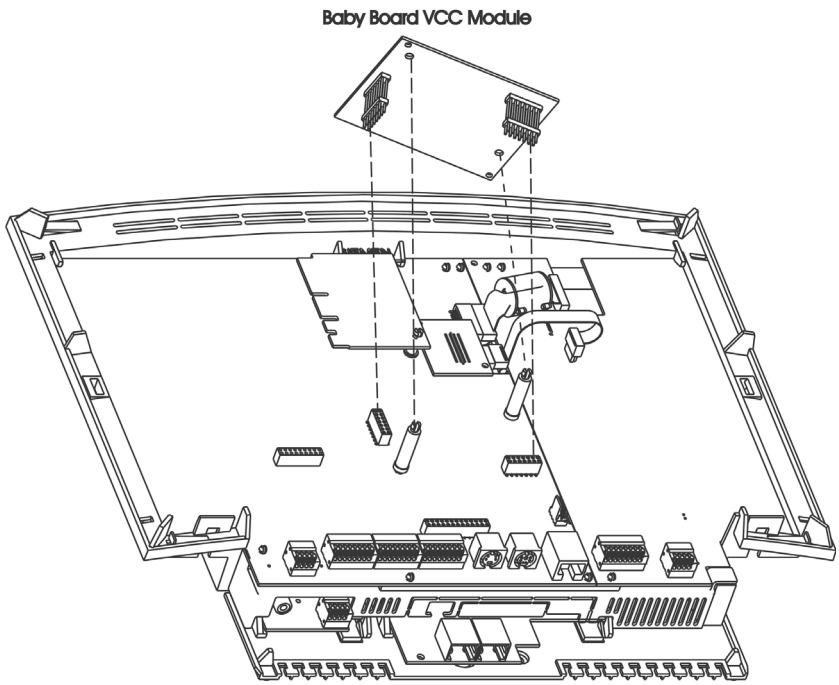


Figure 4-23 Installing a Baby Board VCC Module on the HiPath 1120

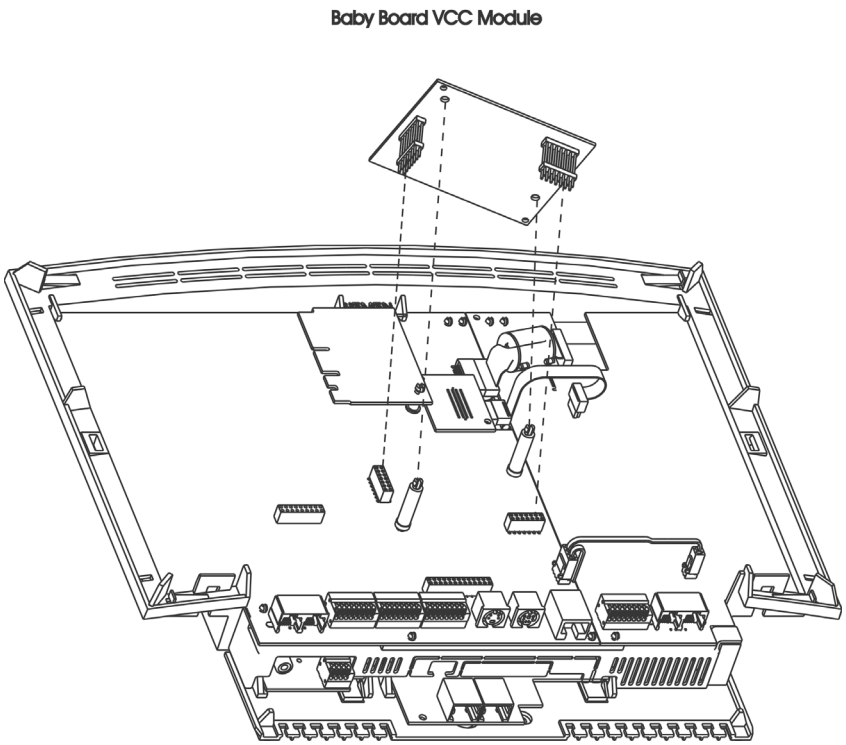


Figure 4-24 Installing a Baby Board VCC Module on a HiPath 1120 CND Version

4.7.7 Installing a CTR- $U_{P0/E}$ Module

4.7.7.1 On the HiPath 1120

Installation Procedures

Step	Procedure
1.	Turn off the power supply.
2.	Remove the system's cover
3.	Attach the module to the appropriate pin connector on the MB.
4.	Reassemble the entire set.
5.	"Performing a Visual Inspection" on page 4-59.
6.	Turn on the power supply.
7.	Configure the required data (see "Operation" on page 6-1).

Assembly Diagram

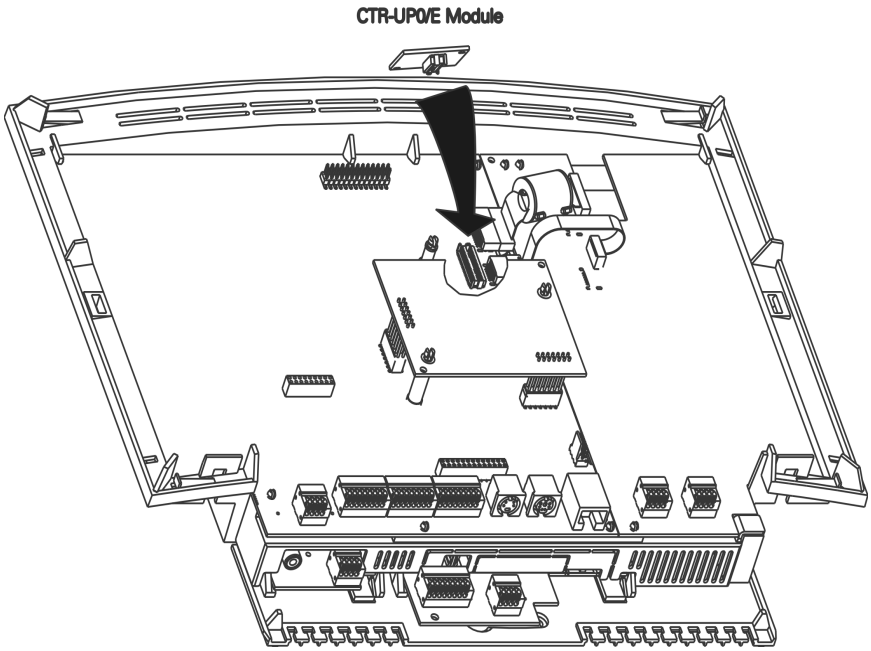


Figure 4-25 Installing a CTR- $U_{P0/E}$ HiPath 1120 Module

4.7.7.2 On the HiPath 1150

Installation Procedures

Step	Procedure
1.	Remove the power supply.
2.	Remove the Main Distribution Frame's cover.
3.	Remove the backplane.
4.	Remove the slots above the MB.
5.	Attach the module to the pin connector on the MB.
6.	Reassemble the entire set.
7.	"Performing a Visual Inspection" on page 4-59.
8.	Turn on the power supply.
9.	Configure the required data (see "Operation" on page 6-1).

Assembly Diagram

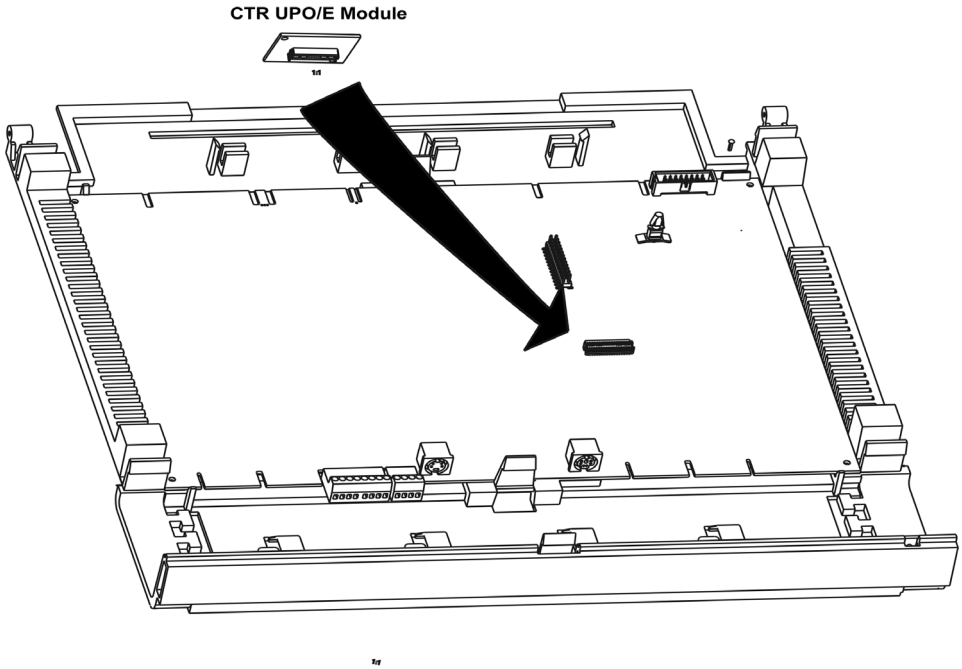


Figure 4-26 Installing a CTR- $U_{P0/E}$ HiPath 1150 Module

4.7.7.3 On the HiPath 1190/1190R

Installation Procedures

Step	Procedure
1.	Turn off the power supply.
2.	Remove the system's front cover.
3.	Disconnect the Main Distribution Frame's cables from the MB.
4.	Move the module's latch as shown in Figure 4-12.
5.	Remove MB.
6.	Attach the module to the appropriate connector on the CPU.
7.	Insert the MB into the system.
8.	Move the module latch back to secure module.
9.	Connect the Main Distribution Frame's cables.
10.	Reassemble the entire set.

Step	Procedure
11.	“Performing a Visual Inspection” on page 4-59.
12.	Turn on the power supply.
13.	Configure the required data (see “Operation” on page 6-1).

Assembly Diagram

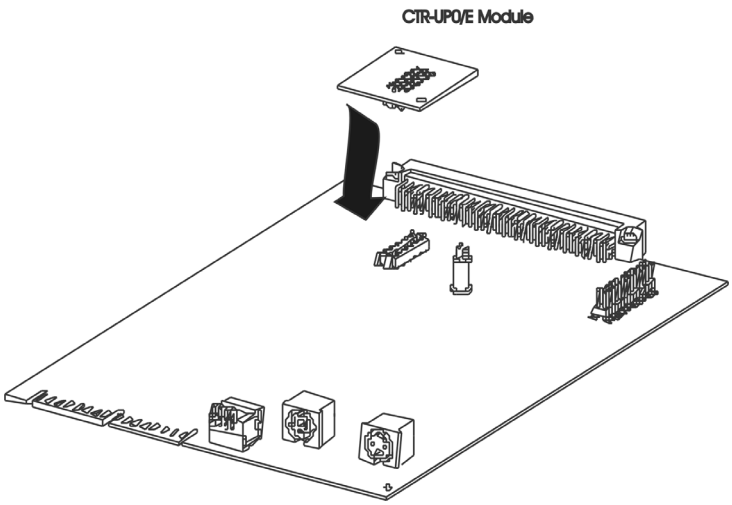


Figure 4-27 Installing a CTR- $U_{P0/E}$ Module on the HiPath 1190/1190R

4.7.8 Installing a Music Module

4.7.8.1 On the HiPath 1120

Installation Procedures

Step	Procedure
1.	Turn off the power supply.
2.	Remove the system’s cover
3.	Raise the system’s top slot (MB).
4.	Insert the module in the slot shown on Figure 4-28.
5.	Attach the MB to the module.

Step	Procedure
6.	Make the connections to the appropriate module connector (see “Music Module” on page 3-52).
7.	Reassemble the entire set.
8.	“Performing a Visual Inspection” on page 4-59.
9.	Turn on the power supply.
10.	Configure the required data (see “Operation” on page 6-1).

Assembly Diagram

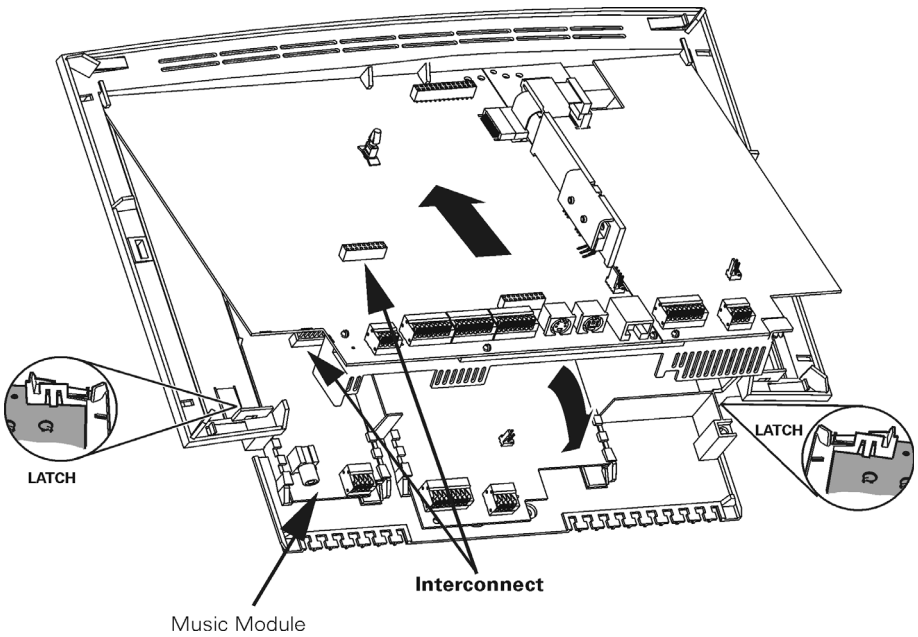


Figure 4-28 Installing a Music Module HiPath 1120

4.7.9 Installing a Power Supply Unit

Introduction

Before connecting the power supply to the system, see “Technical Data” on page 2-8 “ and “Power Supply Unit (PSU)” on page 3-54.

4.7.9.1 On the HiPath 1120

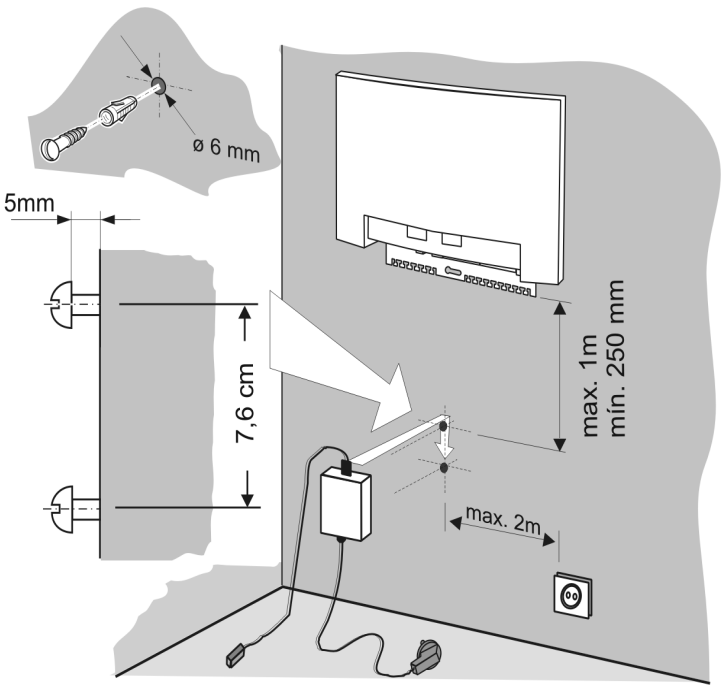


Figure 4-29 Installing a Power Supply HiPath 1120

Procedure after Installation

Step	Procedure
1.	Check network voltage
2.	If the voltage is within the power supply’s voltage range, connect the power supply.
3.	“Performing a Visual Inspection” on page 4-59
4.	Configure the required data (see “Operation” on page 6-1).

Warning

To turn the power on or off to the system use the cable of the power supply.

4.7.9.2 On the HiPath 1150

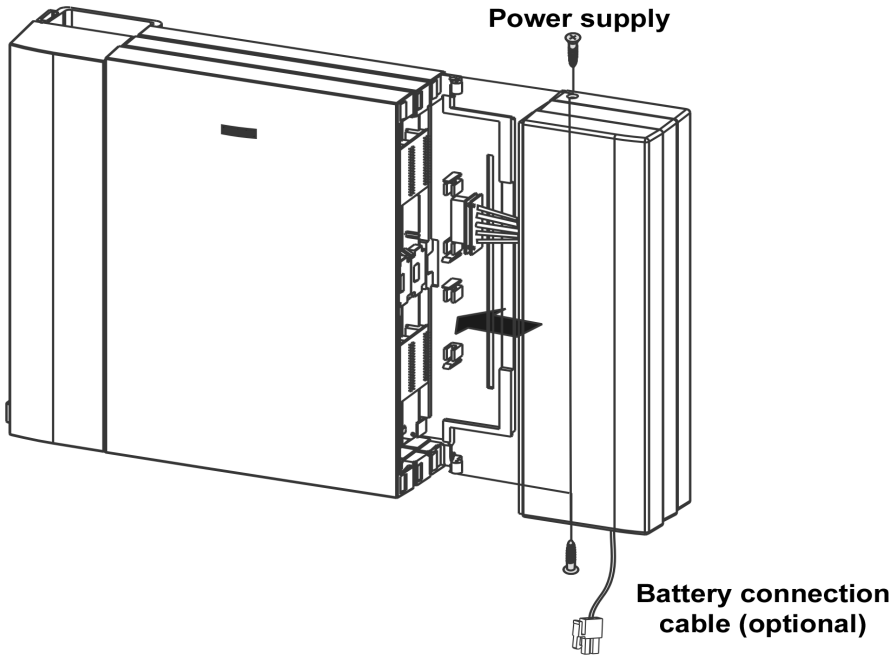


Figure 4-30 Installing a Power Supply Unit HiPath 1150

Procedure after Installation

Step	Procedure
1.	Check network voltage
2.	If the voltage is within the power supply's voltage range, connect the power supply.
3.	Use the power input on power supply units when available.
4.	"Performing a Visual Inspection" on page 4-59
5.	Configure the required data (see "Operation" on page 6-1).

Warning

To turn the power on or off to the system use the cable of the power supply.

4.7.9.3 On the HiPath 1190/1190R

Step	Procedure
1.	Check network voltage
2.	Remove the system's back cover.
3.	If the voltage is within the power supply's range, insert the power supply into the slots shown in Figure 4-31.
4.	Plug the system's AC cord into the AC input on the power supply (see Figure 3-34).
5.	Connect to the backplane.
6.	Reassemble the entire set.
7.	"Performing a Visual Inspection" on page 4-59
8.	To turn on the system use the switch located on the back of the cabinet (see Figure 4-10).
9.	Configure the required data (see "Operation" on page 6-1).

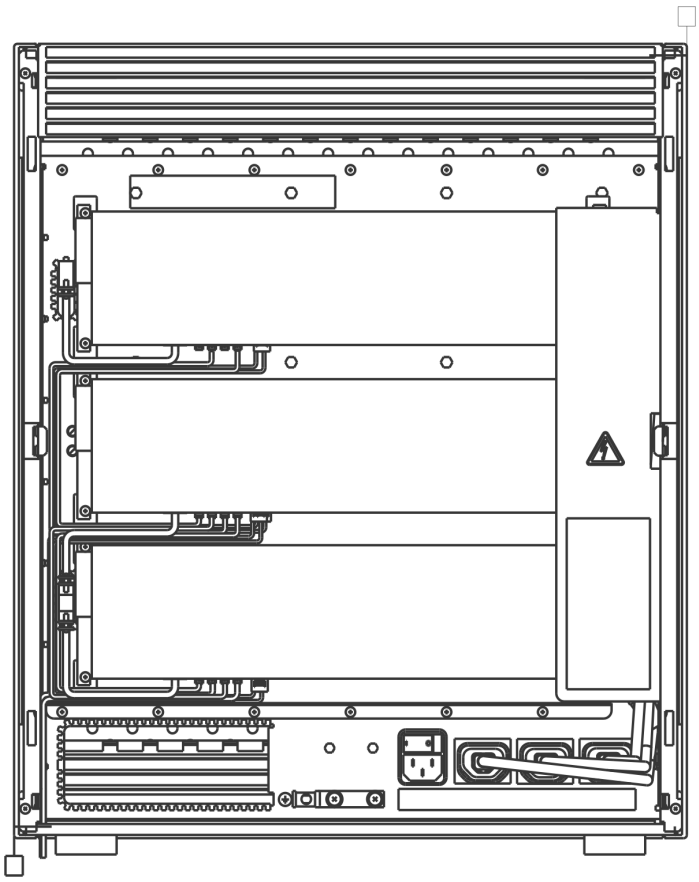


Figure 4-31 Installing power supplies on the HiPath 1190/1190R

Warning

Before powering up the system, ensure that the chassis is properly grounded. Turn system power on or off by using the switch located on the system's AC input.

4.8 Connecting Extensions to the System's Internal MDF (Main Distribution Frame)

Introduction

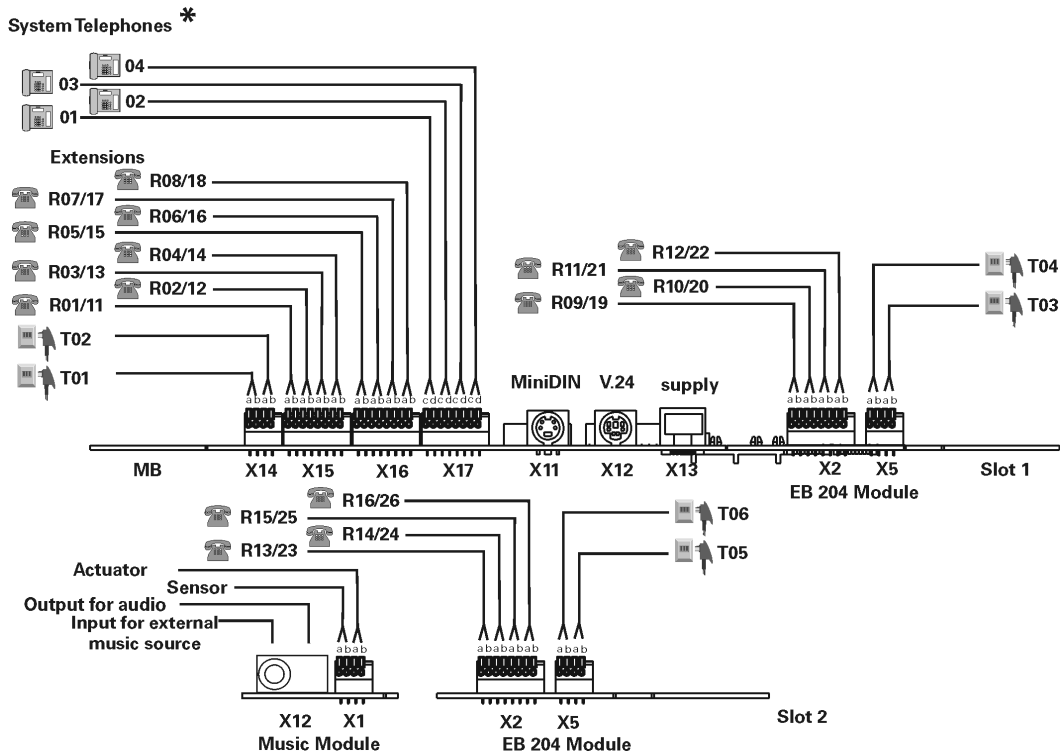
Attach cables to the system's Main Distribution Frame and route them through the conduits and openings to reach the carrier's main telephone distribution cabinet.

Below are some configuration examples. For different configuration the following factors must be taken into consideration: capacity, available modules and their features, and other requirements mentioned in previous chapters.

The HiPath 1100 Manager is available to help you configure the systems. It provides an overview of the PABX MDF in order to show the physical layout of the system's modules, extensions and external line connections. You can also see the numbering for extensions and external lines and the logical numbers for the ports assigned (see the Help file for more information).

4.8.1 HiPath 1120

Example



*The installation of a system telephone requires using a CD pair in conjunction with an a/b extension slot (see "Installing Telephone Terminals" on page 4-56).

Figure 4-32 Distribution of extensions on the HiPath 1120 Main Distribution Frame

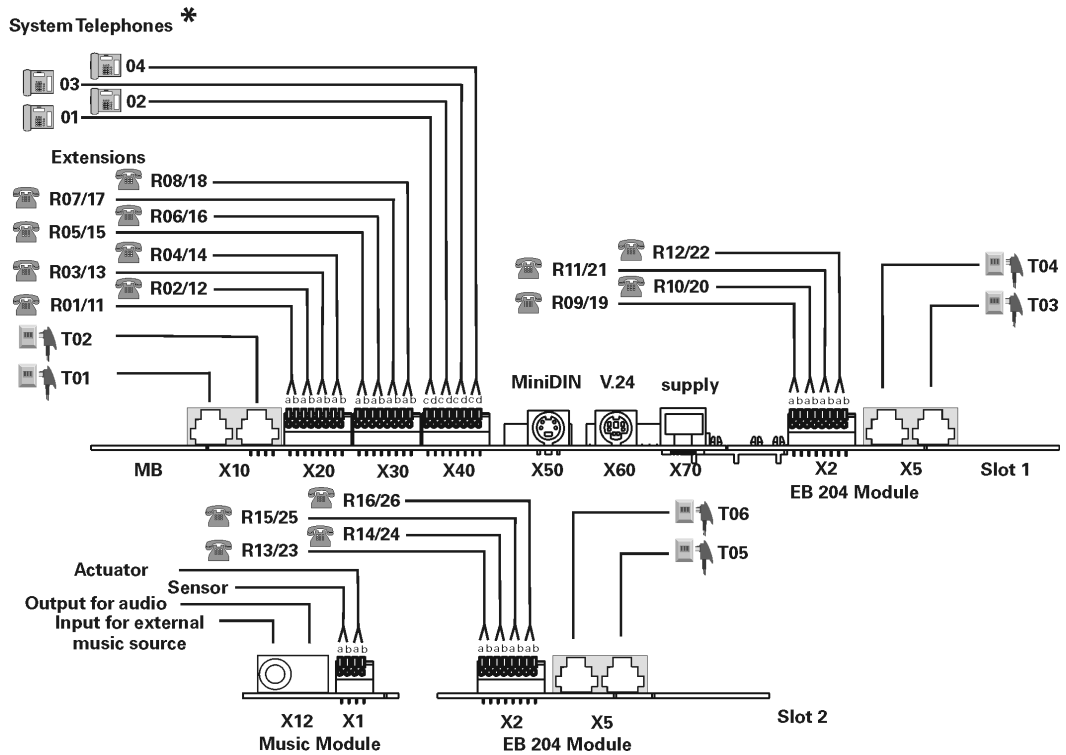
.

> **Warning**
>
> When using the RSA version, extension lines with a C/D interface must only be installed indoors. Only regular extensions (without a C/D interface) can be installed outdoors.

.

> If a U Expansion Module is used$_{PO/E}$, -type system telephones KS are disabled.

CND Version



*The installation of a system telephone requires using a CD pair in conjunction with an a/b extension slot (see "Installing Telephone Terminals" on page 4-56).

Figure 4-33 Distribution of extensions on the HiPath 1120 Main Distribution Frame - CND

If a U Expansion Module is used$_{PO/E}$, -type system telephones KS are disabled.

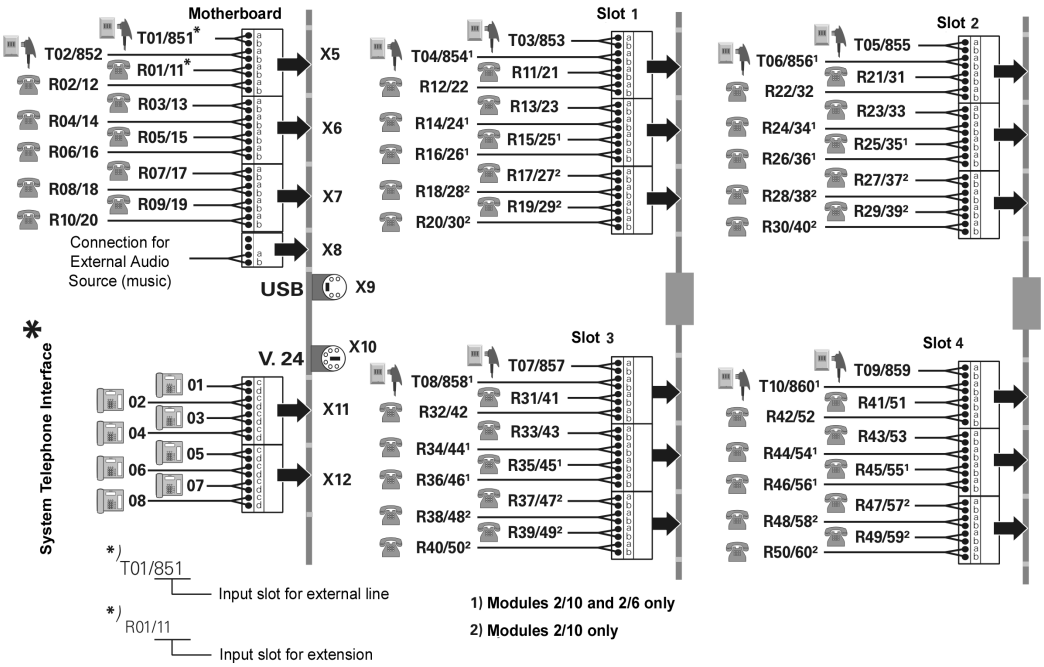
Slot	Trunk position	Slot Extension	Internal Number	Slot	Slot Trunk	Position Exten-sion	Internal Number EB 204 Module
MB	01		801	Slot 1	03		803
	02		802		04		804

a/b		1	11	a/b		9	19
		2	12			10	20
		3	13			11	21
		4	14			12	22
		5	15				
		6	16				
		7	17				
		8	18				
Slot	**Trunk Position**	**Extension Position**	**Internal Number EB 204 Module**				
Slot 2	05		805				
	06		806				
a/b		13	23				
		14	24				
		15	25				
		16	26				

Table 4-4 Example of the location of extensions on the HiPath 1120 Main Distribution Frame

4.8.2 HiPath 1150

Example



*The installation of a system telephone requires using a CD pair in conjunction with an a/b extension slot (see "Installing Telephone Terminals" on page 4-56).

Figure 4-34 Distribution of extensions on the HiPath 1150 Main Distribution Frame

To access the inside of the Main Distribution Frame remove the safety latch using a small screwdriver (See Figure 4-6). After completing the procedure on the system's Main Distribution Frame, replace the safety latch.

Slot	External Line Number	Extension Slot	Internal Number
MB	01		801
	02		802

a/b		1	11					
		2	12					
		3	13					
		4	14					
		5	15					
		6	16					
		7	17					
		8	18					
		9	19					
		10	20					
Slot	**External Line Number**	**Exten-sion Slot**	**Internal Number EB 210**	**Internal Number EB 206**	**Internal Module Number**	**Internal Number Module**	**Internal Number EB 400**	**Internal Number EB 800**
Slot 1	03		803	803	803	803	803	803
	04		804	804	804	804	804	804
a/b		11	21	21	21		805	805
		12	22	22	22		806	806
		13	23	23				807
		14	24	24				808
		15	25	25				809
		16	26	26				810
		17	27					
		18	28					
		19	29					
		20	30					

Slot	External Line Number	Exten-sion Slot	Internal Number EB 210	Internal Number EB 206	EB 202 Module Internal	Internal Number EB 200	Internal Number EB 400
Slot 2	05		805	805	805	805	807
	06		806	806	806	806	808
a/b		21	31	27	23		809
		22	32	28	24		810
		23	33	29			
		24	34	30			
		25	35	31			
		26	36	32			
		27	37				
		28	38				
		29	39				
		30	40				

Slot	External Line Number	Exten-sion Slot	Internal Number EB 210	Internal Number EB 206	EB 202 Module Internal	Internal Number EB 200
Slot 3	07		807	807	807	807
	08		808	808	808	808
a/b		31	41	33	25	
		32	42	34	26	
		33	43	35		
		34	44	36		
		35	45	37		
		36	46	38		
		37	47			
		38	48			
		39	49			
		40	50			

Slot	External Line Number	Exten-sion Slot	Internal Number EB 210	Internal Number EB 206	EB 202 Module Internal	Internal Number EB 200
Slot 4	09		809	809	809	809
	10		810	810	810	810
a/b		41	51	39	27	
		42	52	40	28	
		43	53	41		
		44	54	42		
		45	55	43		
		46	56	44		
		47	57			
		48	58			
		49	59			
		50	60			

Table 4-5 Example of extension locations on the HiPath 1150 Main Distribution Frame

4.8.3 HiPath 1190/1190R

Warning

On the HiPath 1190, trunks and extensions lines must be routed to use the shortest path inside the cabinet.

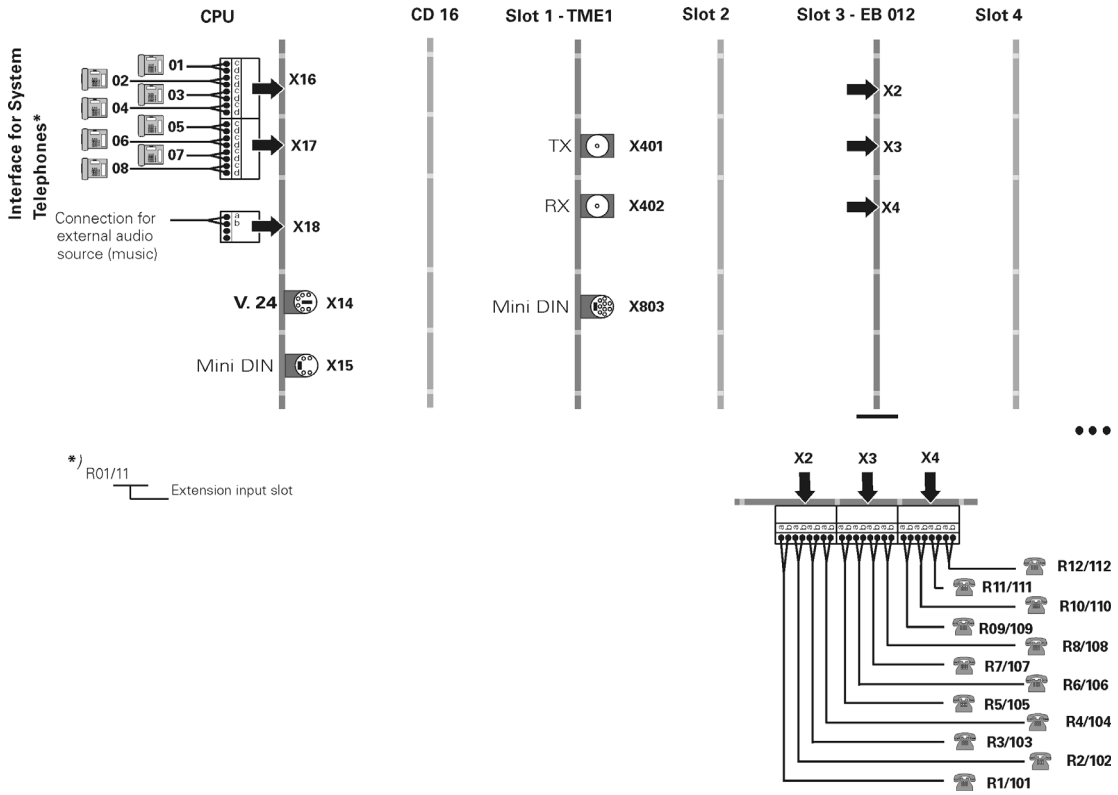
Example

Due to the flexibility of the HiPath 1190 systems, the configuration of expansion and option modules can vary according to each client's needs. Here is an example of a possible configuration:

For a system with a TME1 module in slot 1 and an EB 012 module in slot 3. The Main Distribution Frame would be configured as follows:

Module	Slot	External Line Number Line Number	Extension Slot Slot	Internal Number
TME1	Slot 1	01 to 30	---	801 to 830
EB 012	Slot 3	---	1 to 12	101 to 112

Table 4-6 Example of extension locations on the Main Distribution Frame



*The installation of a system telephone requires using a CD pair in conjunction with an a/b extension slot (see "Installing Telephone Terminals" on page 4-56).

Figure 4-35 Distribution of extensions on the HiPath 1190/1190R Main Distribution Frame

Warning

When a S_0 module is used, the expansion boards default numbering is changed.

4.9 Installing a V.24 Interface

Introduction

To connect a PC or a printer to the HiPath 1100 using the RS 232 serial interface you must have a V.24 adapter cable (see "V.24 Adapter Cable" on page 3-65). This interface allows you to use some applications developed specifically for configuring and managing user features.

Connections

Step	Procedure
1.	Attach the end of the V.24 serial interface cable with the Mini DIN connector (male) to the MB's serial Mini DIN connector . Attach the other end to the printer or PC serial port. When connecting to a PC, make sure that either the COM 1 or COM 2 port is available.
2.	The following parameters can be configured when using a PC: • 9600 / 14400 / 19200 (default) / 38400 / 56000 / 57600 / 115200 /128000 / 256000 baud Fixed settings: • 8 Bits • 1 Stop Bit • No Parity
3.	When connecting to a printer, make sure the current time at the PABX is set correctly.

Note

With an ADSL module do not use the MB's serial connector since the HiPath 1100 serial connection is assigned to the ADSL module. All functions of the serial port are now executed over the LAN.

4.10 Installing an USB Interface

Introduction

To connect a PC to the HiPath 1100 using an USB interface you must have an USB adapter cable (see "USB adapter cable" on page 3-67). This interface allows you to use applications developed specifically for configuring and managing user features.

Warning

The drivers requires for the installation are included in the Setup CD.

4.10.1 On the HiPath1120/1150

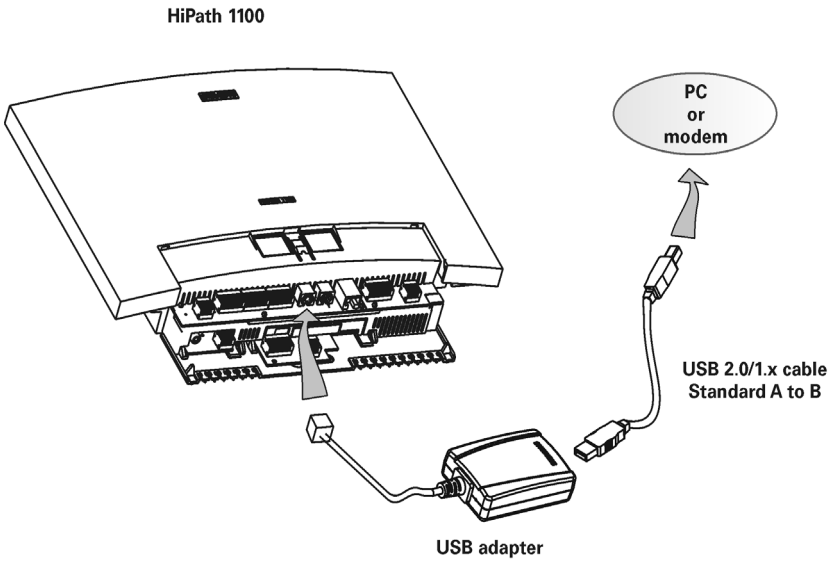


Figure 4-36 Illustration of USB cable connection

Connections

Step	Procedure
1.	Plug the USB adapter cable (with the male Mini DIN connector) into the 4-pin Mini DIN connector on the motherboard (Figure 4-36).
2.	Connect the A to B Standard end of the USB cable to the USB adapter, and connect the other end to the computer or modem.
3.	See System Programming Mode in the “Programming the system using a PC” on page 6-3.

4.10.2 On the HiPath 1190/1190R

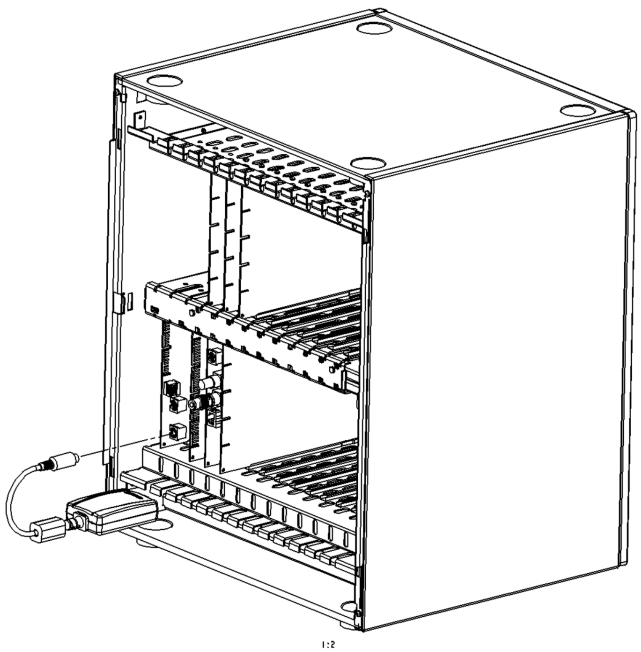


Figure 4-37 Illustration of USB cable connection on HiPath 1190

Connections

Step	Procedure
1.	Plug the USB adapter cable (with the male Mini DIN connector) into the 4-pin Mini DIN connector on the motherboard (Figure 4-37).
2.	Connect the A to B Standard end of the USB cable to the USB adapter, and connect the other end to the computer or modem.
3.	See System Programming Mode in the “Programming the system using a PC” on page 6-3.

4.11 Installing an External Audio Source

The HiPath 1100 systems provide connections for audio devices, such as radios, tuners, CD, MD, and others.

- HiPath 1120
  The audio source must be connected to a Music Option Module using an RCA connector in slot X1 (see Figure 4-32 on page 4-39).
- HiPath 1150/1190/1190R
  The audio source must be connected to the MB on slot X8, pins 3 and 4 (see Figure 4-34 on page 4-42).

4.12 Installing a TFE - Entrance Telephone Interface

4.12.1 Models: S30817-K930-A300 and S30122-K7696-T313

- S30817-K930-A300 (without amplifier)
- S30122-K7696-T313 (with amplifier)

Installation Procedures

Step	Procedure
1.	Connect your system to the TFE interface, see “Entrance Telephone Interface” on page 3-62.
2.	Connect the Entrance Telephone to the TFE interface
3.	“Performing a Visual Inspection” on page 4-59.
4.	Configure the required data (see “Operation” on page 6-1).

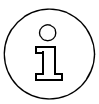
4.12.2 Model S30817-Q936-C282 - Brazil

Installation Procedures

This interface can be configured to work in Pager or Entrance Telephone mode.

Pager Mode

Step	Procedure
1.	Set jumper 1 (J1) to ON and jumper 2 (J2) to OFF (see “Entrance Telephone Interface” on page 3-62).
2.	Configure the system for Entrance Telephone/Door Opener mode and specify the extensions for answering calls. Specify also at which extension the interface will be installed.
3.	Connect the interface to the Entrance Telephone extension by using contacts 1 and 2 on the X2 connector.
4.	To activate Pager mode, lift the handset at one of the answering extensions and dial the Entrance Telephone number. Once the appropriate number is dialed, the calling extension is connected to the Entrance Telephone, but without voice capability.
5.	For voice capability, dial “8”. The ambient sound will stop and you will be able to leave a message. The sound will be amplified in all speakers connected to the amplifier.
6.	To disable voice capability, dial “9“. If the sound is not disabled manually, it will timeout automatically after 15 seconds. To enable the automatic timeout, set jumper 3 (J3) to OFF.
7.	“Performing a Visual Inspection” on page 4-59.
8.	Configure the required data (see “Operation” on page 6-1).



The length of the cables between the X2 connector and the PABX must not exceed 32.8 feet (10 meters).

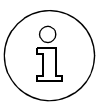
Entrance Telephone Mode

Step	Procedure
1.	Set jumper 1 (J1) to OFF (see “Entrance Telephone Interface” on page 3-62).

Step	Procedure
2.	Configure the system for Entrance Telephone/Door Opener mode and specify the extensions for answering calls. Specify also at which extension the interface will be installed.
3.	Connect the interface to the Entrance Telephone extension by using contacts 1 and 2 on the X2 connector.
4.	Connect the Entrance Telephone to contacts 3 and 4 on the X6 connector, wiring it as instructed by the manufacturer.
5.	When the person at the door presses the Entrance Telephone button it causes it to ring at extensions configured for answering calls. When an extension answers the call, the voice capability is automatically enabled.
6.	Dial the code for the Door Opener.
7.	To disable voice capability the attendant extension must dial “9”. To enable voice again the attendant extension must dial “5”. If the sound is not disable manually, it will automatically timeout after 5 minutes.
8.	“Performing a Visual Inspection” on page 4-59.
9.	Configure the required data (see “Operation” on page 6-1).

4.13 Recommendations concerning the Power Supply and Protection of the System

Instructions for Solving Possible Ground Return Problems



To avoid ground return signals from remote systems use the same phase for the different systems’ power supply.
If the building’s features make this impossible, use an intermediate transformer to detach the external system so that damage may be avoided during operation.

Protective Ground Connection

Danger

The HiPath 1150/1190/1190R power supplies must be protected by an earth ground in a separate safety ground conductor (PE - green/yellow) (TN-S system, minimum section = 2.5 mm^2) as shown in Figure 4-38.
Any additional servicing of low voltage networks (100 - 240 V AC) must be done by qualified technical personnel only.
Do not use as a grounding point:
- Central heating systems;
- Sewer systems;
- Ground wire for antennae systems.

Failure to comply with these recommendations may lead to hazardous conditions.

Example of a Power Supply Configuration for the HiPath 1150/1190/1190R Systems

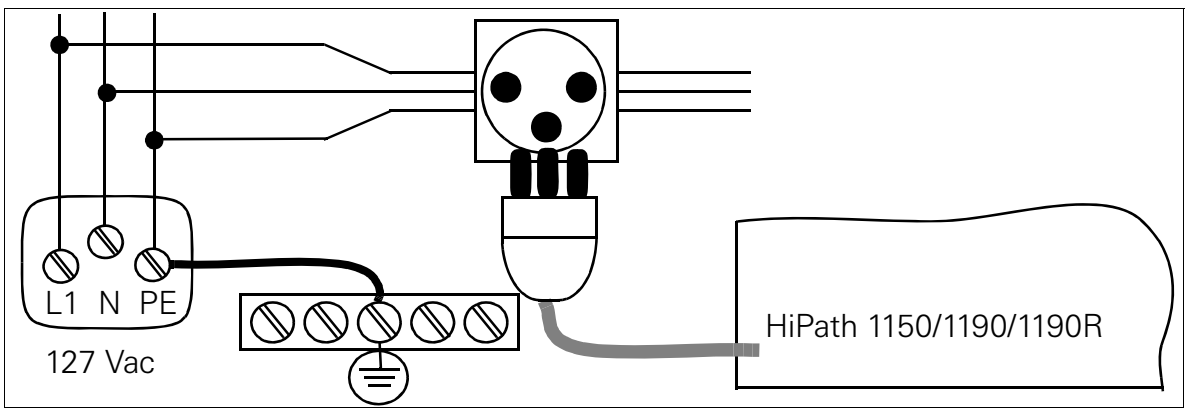


Figure 4-38 Diagram of Power Supply Configuration for the HiPath 1150/1190/1190R Systems

4.13.1 Protection of External Lines and Extensions

The primary protection of external lines and extensions must be provided by grounding the system through a separate cable (minimum section = 2.5 mm^2) set up exclusively for the protection of the telephone system. The secondary protection of external lines and extensions is between wires A and B.
For primary protection for a distribution box that is external to the PABX use a MPT250 shield with two PTCs (A and B wires) for overcurrent protection along with a gas capsule connected to the ground wire through a separate cable that is independent of the cable used for grounding the power supply.

The connection between the HiPath 1100 system and the distribution box must be made using multipair cables, preferably foil shielded. This type of flat cable has a special grounding wire that must be connected to the safety ground, but only at the distribution box end

.

For the RSA version the primary protection for external lines and extensions must be provided according to local regulations.

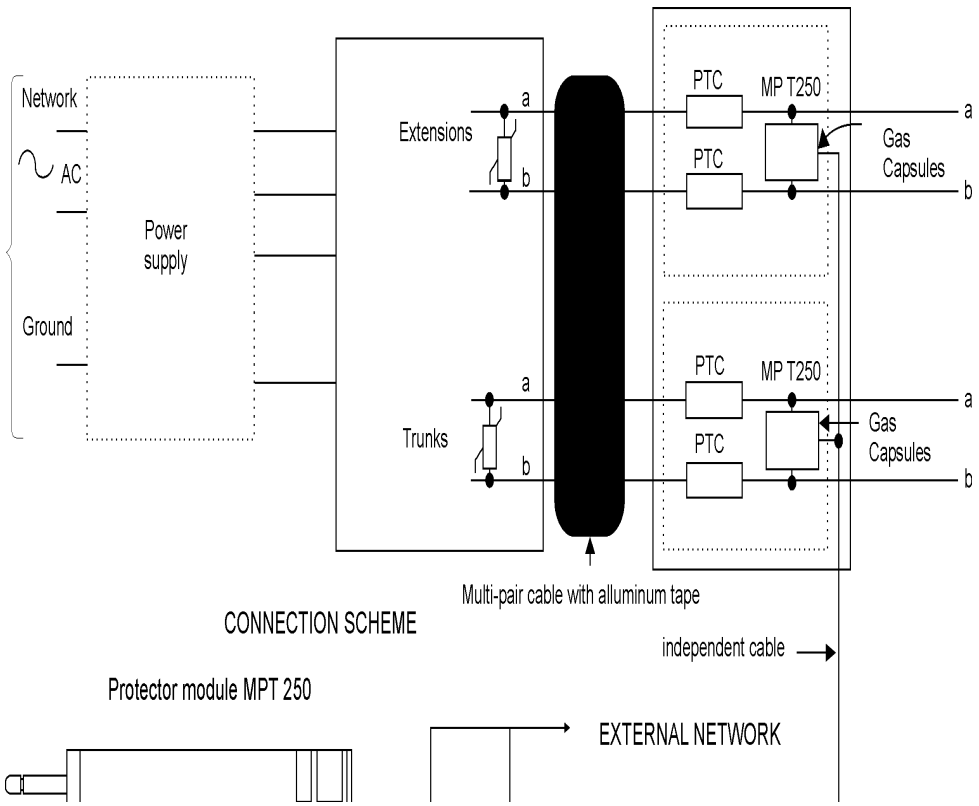


Figure 4-39 Protection and Grounding Connection Diagram

4.13.2 Connecting a Safety Ground Wire

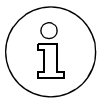
For the safety of the user and the technician the HiPath 1190 system has a dedicated terminal for grounding its metal enclosure. This terminal is located on the back of the enclosure. Connecting a ground wire protects the accessible metal parts of the equipment against high voltage and power levels in the event of a surge or a failure.

The ground connection is critical and must be wired before connecting the system to a power grid or a telecommunications network (internal or external). To make this connection follow these guidelines:

- For an indoor environment, use a safety ground conductor (PE) with a cross-section larger than 2.5 mm^2. For an outdoor environment, use a safety ground conductor (PE) with a cross-section larger than 4 mm^2.
- The wire insulation should be color-coded yellow and green.
- The grounding system's impedance must not exceed 10 Ohms.

When uninstalling the system, the safety ground wire (PE) should be the last one disconnected.

The ground wire connection does not preclude the need to provide functional grounding to the system by means of an appropriate power supply circuit (see "Power Systems" on page 2-1)
.



The ground wire must be connected to the protective ground of the building, never to water pipes, lightning rods, etc.

Checking the Safety Ground Connection

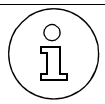
Procedure

To ensure a proper grounding connection perform the tests described in the table below before placing the system in service
.

Step	Procedure	Result (Rated Value)
1.	Measure the Ohmic Resistance between the ground connection and the grounding bar.	< 1 Ohm
2.	Measure the ohmic resistance between the network's protective earth ground (PE) and the outlet or the Main Distribution Frame.	< 1 Ohm
3.	Measure the ohmic resistance of the outlet's neutral conductor in relation to the earth.	< 10 Ohm

4.14 Protective Power Outage Relays

Each external analog line on the EB 202/204/206/210 modules features a relay that forwards the line to the first two extension slots on each EB module in the event of a power outage.



Expansion modules EB 200/400/800 do not feature protective relays.

4.15 System Cabling

Introduction

The connection between the extensions and the system is provided with cables as follows:

Color Group	Pair	A Wire	B Wire	Color Group	Pair	A Wire	B Wire
1	1	br/az	az/br	3	11	pt/az	az/pt
	2	br/lr	lr/br		12	pt/lr	lr/pt
	3	br/vd	vd/br		13	pt/vd	vd/pt
	4	br/ct	ct/br		14	pt/ct	ct/pt
	5	br/cz	cz/br		15	pt/cz	cz/pt
2	6	vm/az	az/vm	4	16	am/az	az/am
	7	vm/lr	lr/vm				
	8	vm/vd	vd/vm				
	9	vm/ct	ct/vm				
	10	vm/cz	cz/vm				

Table 4-7 Color code for cables

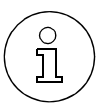
The end of the cable that is attached to the system's Main Distribution Frame uses one of the connector types shown in "Main Distribution Frame" on page 3-59.

4.16 Installing Telephone Terminals

A **KS-type System Telephone** has four wires (A, B, C, D), two used for voice (A, B), and two for data (C, D).

An **optiPoint System Telephone** has four wires (A, B, C, D), two used for voice (A, B), and two for data (C, D).

A **Standard Telephone (DP/MF)** has only two wires (A, B), both used for voice.



Standard Telephones (DP/MF) and optiPoint System Telephones must be connected to the HiPath 1100 system using only wires A and B. Do not use wires (C,D).

Connections

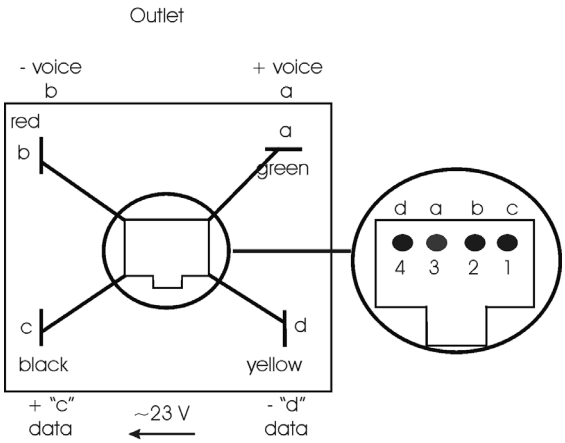


Figure 4-40 Connections for telephone jacks (for Brazil)

Red wire (R) = voice (extension's B wire).

Green wire (G) = voice (extension's A wire).

Black wire (BK) =CD card's C wire (positive in relation to D).

Yellow wire (Y) =CD card's D wire (negative in relation to C).

Installation Procedures

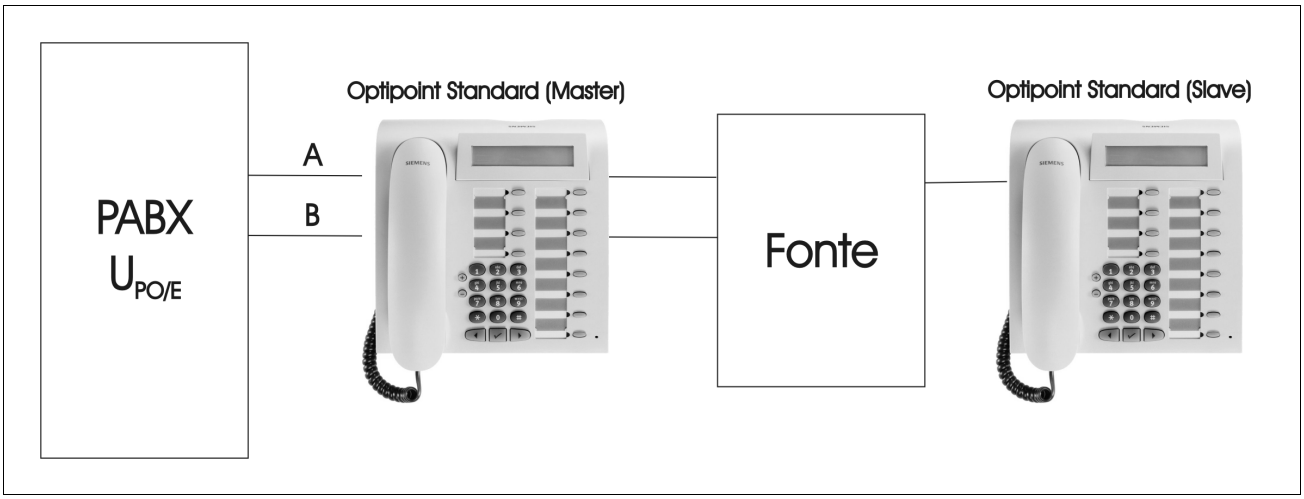
Step	Procedure
1.	Install telephone jacks at the extensions.
2.	Connect each extension jack to the desired a/b slot on the Main Distribution Frame.
3.	KS-type system telephones are preset at factory default for C/D pairs. If you need to select a different C/D pair, see Figure 4-32 or Figure 4-34 then program the new C/D interface assignment.
4.	Install the telephone sets.
5.	"Performing a Visual Inspection" on page 4-59.
6.	Configure the required data (see "Operation" on page 6-1).

KS-type system telephones are powered through the C and D wires. Take the necessary precautions to avoid short circuits at the interconnect block. If a short circuit occurs between wires C and D, the interface's protection will take the extension out of service. To reactivate the extension, remove the short, disconnect the system telephone then reconnect it. The interface should start operating normally now.

For 2-wire analog telephone sets (A, B) there will be no problem in the event of a momentary short-circuit.

The maximum distance for installing a KS-type system telephone using a two-pair cable with a 0.4 mm^2 copper wire is 0.3 miles (500 meters). For standard telephones the maximum distance is 1.5 miles (2,500 meters).

4.16.1 Example of an optiPoint Master/Slave Connection



- optiPoint Master/Slave Telephone Connection

Important

When there are more than four optiPoint 500 telephones (master or slave) in the HiPath 1120 system, an additional power supply must be used. (see Chapter 3, “List of Modules”).

4.17 Performing a Visual Inspection

Introduction

Before starting up the system, perform a visual inspection of all hardware, cables and power supply. This procedure should be performed with the entire system turned **OFF**

.

Warning

Before starting to work on the HiPath 1190, make sure the system is grounded and disconnected from all power sources.
Follow all guidelines to protect the system from electrostatic discharge (see "Safety Information: Caution" on page 1-3).

Visual Inspection Procedure

Step	Procedure	Aids/ Notes	Measure
1.	Compare the installation position of modules on the slots against the installation diagram.	Module Installation Diagram.	Make the appropriate corrections to the modules and notify the appropriate person.
2.	Check to see that all modules are securely and properly attached.	See "System Data" on page 2-1.	Attach or secure modules as needed.
3.	Check the network's line voltage.	Multimeter.	Verify voltage at power source.

Table 4-8 Visual Inspection Procedure

5 Telephones

This chapter describes the characteristics of System Telephones and Standard Telephones (DP/DTMF).

5.1 Overview

This chapter covers the following topics:

Topic	Page
System Telephones	
• Profiset 3030 System Telephone	5-2
• E822 ST System Telephone	5-3
• E821 ST System Telephone (for Brazil only)	5-4
• optiPoint 500 System Telephones	5-6
• Programmable Feature Keys	5-12
• Settings	5-12
Dial Pulse (DP) and Dual Tone Multifrequency (MF)	
• Dial Pulse (DP) Telephone	5-13
• Dual Tone Multifrequency Telephone (MF)	5-13

5.2 System Telephones

System telephones are designed exclusively for HiPath 1100 systems. In addition to special features, they provide direct access to some PABX features such as for tracking the status of external line, extensions or functions/features programmed via programmable keys.
The programming for the system is described in Chapter 7, “Configuring the system specifically for the client”.

5.2.1 Keys

Status Display Keys

For optiPoint 500, Profiset 3030, E821 ST and E822 ST telephones, these keys display the extension and external lines status associated with the LED key blinking pattern.

Symbol	Description
	LED Key OFF: Extension or external line is available or function is disabled.
	LED key ON: Extension or external line is available or function is disabled.
	Blinking LED key: Incoming call or recall ringing.

5.2.2 Profiset 3030 System Telephone

This telephone features a display with the lines:

- The first line displays Time and Date.
- The second line displays information such as the number of the extension called and number of system messages.
- The third line displays the extension number and system messages pertaining to feature selection options.
- When ">" or "<" symbol appears next to the line, it means there are additional selection options. To scroll through the available options use the navigation keys. To select an option press the Enter key.
  When a "▲" or "▼" symbol appears next to the line, it means there are additional lines to be displayed. Select the “Menu” key to access the next line or the previous line.

Profiset 3030 Telephone Layout

Figure 5-1 Profiset 3030 System Telephone Layout

1. Handset cradle
2. Function keys;
3. Programmable keys with status LEDs.
4. Speakerphone speaker
5. Microphone for speakerphone;
6. Display.

5.2.3 E822 ST System Telephone

The E822 ST System Telephone features a 2-line, 16-character alphanumeric display.

This system telephone features a 2-line display:

- The first line displays time, date, day of the week, number of the extension called, and number of system messages.
- The second line displays the extension number and system messages pertaining to feature selection options.

- If the ">" appears on the right, it means there are more options available. To navigate through the options use the arrow keys. To select an option press the Enter key.

E822 ST System Telephone Layout

Figure 5-2 E822 ST System Telephone Layout

1. Alphanumeric LCD display;
2. Programmable LED keys for status indication
3. Function keys
4. SPEAKER (Speakerphone) Key - The speakerphone is disabled when the handset is lifted. To switch from Speakerphone to Normal mode lift the handset and press the SPEAKER key.

5.2.4 **E821 ST System Telephone** (for Brazil only)

This telephone features keys for direct access to TOGGLE, PICK UP and CONFERENCE facilities. It also features programmable keys for extensions and external lines.

E821 ST System Telephone Layout

Figure 5-3 E821 ST System Telephone Layout

1) Programmable LED keys for status indication

2) Special function keys

3) Handset release key.

5.2.5 optiPoint 500 System Telephones

optiPoint 500 Advance/Economy/Basic/Standard System Telephones feature a 2-line, 24-character per line alphanumeric display.

This system telephone features a 2-line display:

- Line 1 displays time, date, requests, error messages and confirmation messages, as appropriate.
- Line 2 displays the internal number, system name, and available options that can be selected by pressing ☑. If the ">" appears on the right, it means there are more options available. Options can be accesses using ◀▶.

> **Important**
> When there are more than four optiPoint 500 telephones (master or slave) in the HiPath 1120 system, an additional power supply must be used. (See Chapter 3, “List of Modules”).

5.2.6 optiPoint 500 Advance Telephone Layout

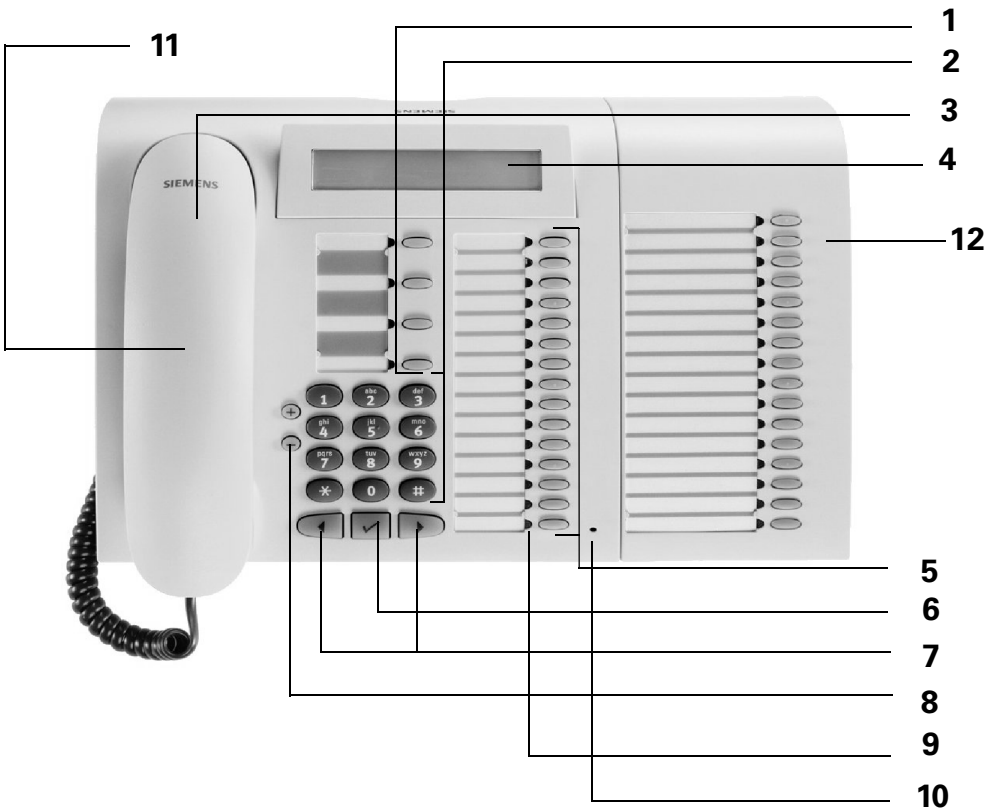


Figure 5-4 optiPoint 500 advance System Telephone Layout

optiPoint 500 economy/basic/standard Telephone Layout

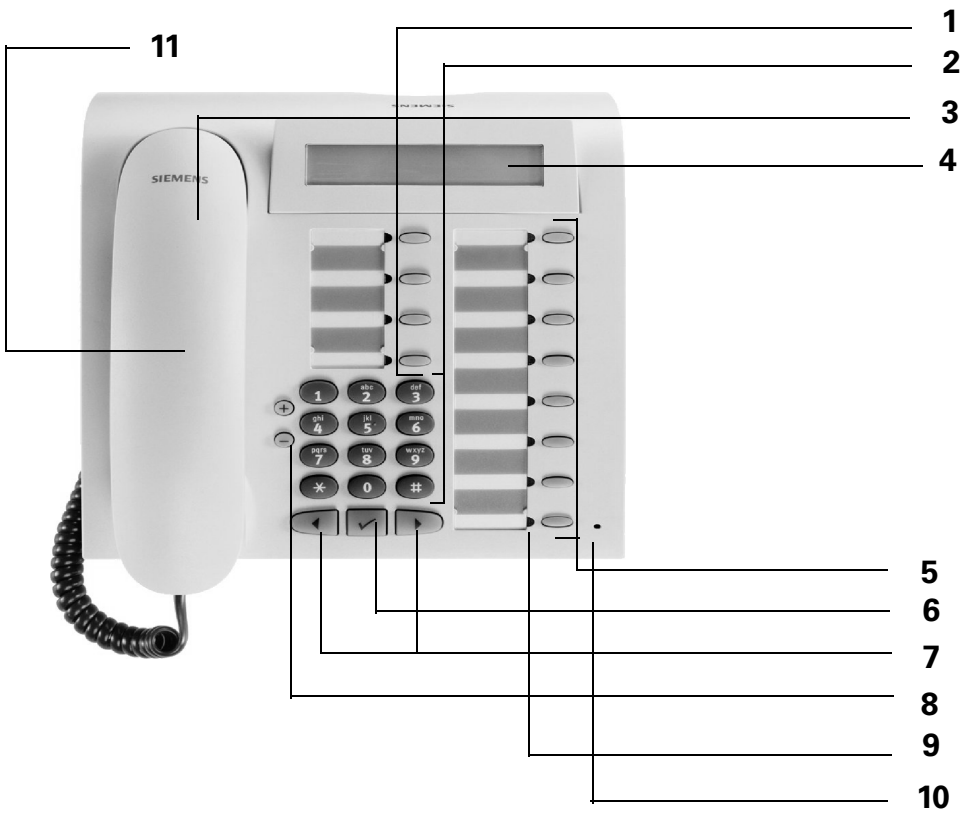


Figure 5-5 optiPoint 500 economy/basic/standard System Telephone Layout

optiPoint 500 entry Telephone Layout

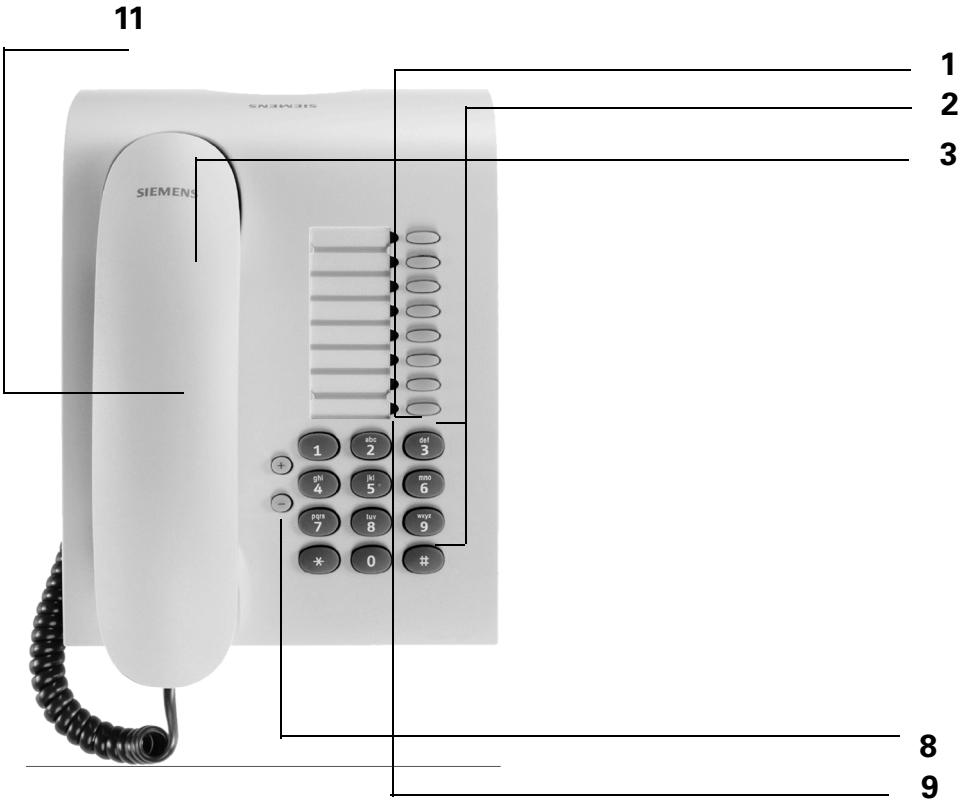


Figure 5-6 optiPoint 500 entry System Telephone Layout

1. Key labels - preset Function keys: Service Menu, Redial, Microphone On/Off or Internal, Speaker.
2. Keypad
3. Handset;
4. 2-line, 24-character-per-line backlit display
5. Key bank with user-programmable keys.
6. Key for confirming a function
7. Keys for selecting a function
8. Keys for configuring the telephone settings
9. LEDs
10. Microphone for speakerphone;

11. Speakerphone and ring speaker
12. optiPoint key module with additional user-programmable keys.

optiPoint 500 Back Panel

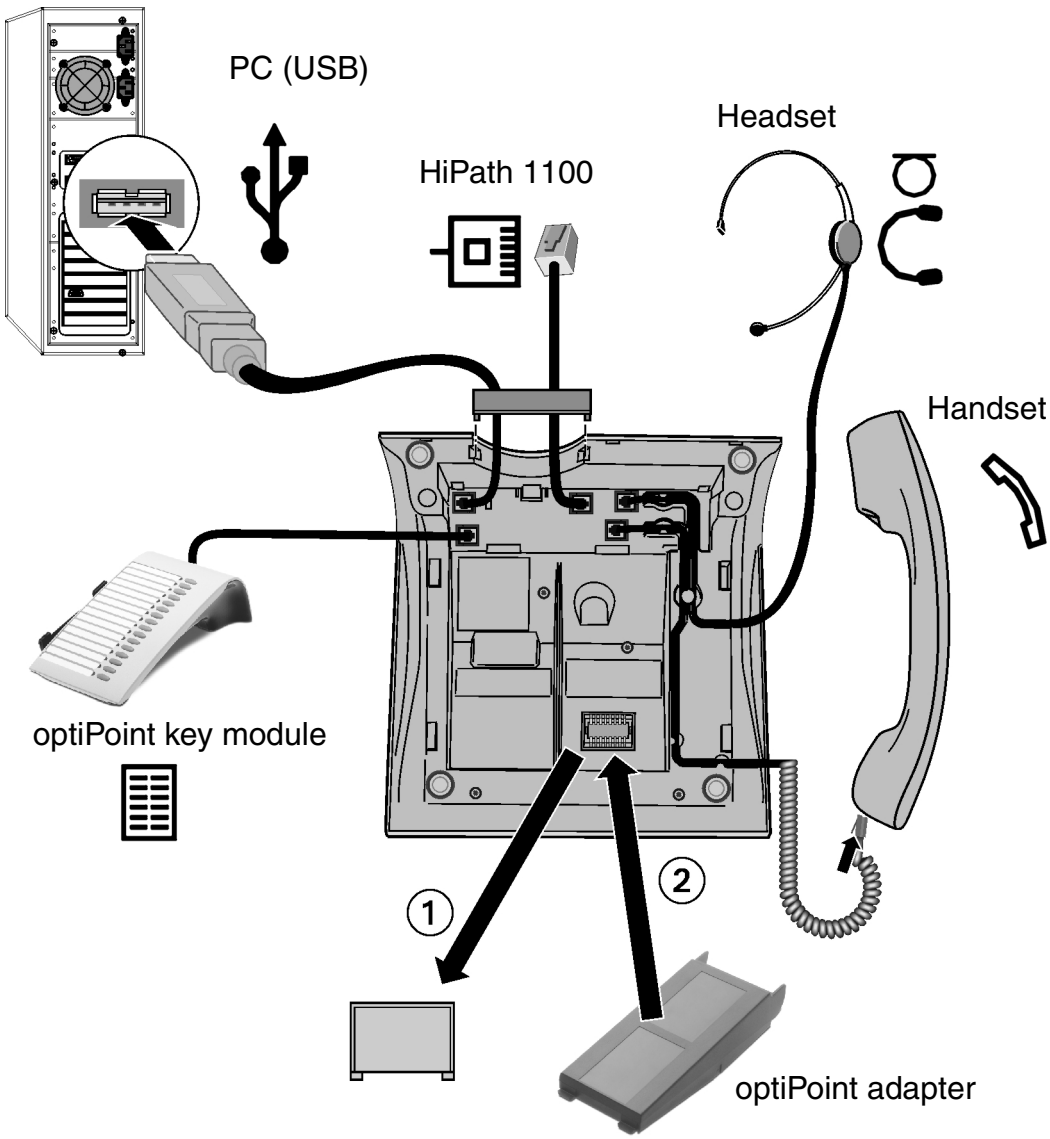


Figure 5-7 optiPoint 500 Back Panel

Terminals, Adapters and Accessories

Our Options are designed to improve performance and to provide more comfort for users while they work.

	Additional optiPoint Terminals: Additional terminals provide increased comfort, efficiency and safety. The following terminals are supported: optiPoint key module, optiPoint memory module.
	optiPoint adapters: Extend telephone features by adding adapters for interfacing with different system telephones, ISDN or analog telephones, headsets, and speakers. The following adapters are supported: optiPoint acoustic adapter, optiPoint analog adapter, optiPoint ISDN adapter and optiPoint phone adapter.
	Headset: Allows for hands-free use of the telephone.
	Additional microphone: Designed for use with the Speakerphone feature in demanding acoustical environments. Connected using optiPoint acoustic adapter.

	External speaker: Improves reception quality when using the Speaker/Speakerphone. Ideal for conferences. Connected using optiPoint acoustic adapter.

Table 5-1 optiPoint 500 Terminals, Adapters and Accessories

optiPoint 500 Properties and Connection Options

optiPoint 500*	**economy**	**basic**	**standard**	**advance**
Function keys	12	12	12	20
Full-Duplex Speakerphone Feature	-	-	Yes	Yes
Lighted display	-	-	-	Yes
Headset connection:				
• Integrated interface	-	-	-	Yes
• Adapter	-	Yes	Yes	Yes
• Headset interface	Yes	Yes	Yes	Yes
USB Interface	-	Yes	Yes	Yes
Additional terminal interface (slave)	-	Yes	Yes	Yes
Adapter slots	0	1	1	2

* The name and type are printed on the bottom of the optiPoint 500 telephone set.

5.2.7 Programmable Feature Keys

Programmable keys provide easy access to the most frequently used system features:

- Internal calls
- External calls
- Answering an internal or external call
- Consultation (internal or external)
- Transfer (internal or external);
- Line reservation
- Individual pickup
- Toggle/Hold
- Other.

5.2.8 Settings

System telephone settings can be configured individually according to each user's preferences. For more information on how to configure a system telephone, see the manual included with the unit:

Documentation	Number
Profiset 3030	A31003-K1250-B816 -**- 4L19
E821 ST and E822 ST	A31003-K1250-B814 -**- 3P19
optiPoint 500	A31003-H8400-B988 -**-6Z19

5.3 Dial Pulse (DP) and Dual Tone Multifrequency (MF)

5.3.1 Dial Pulse (DP) Telephone

Analog telephones, wireless telephones, fax machines and any device that uses pulse dialing. Procedures for using these types of telephones are outlines following the symbol**"DP"**.

5.3.2 Dual Tone Multifrequency Telephone (MF)

Analog telephones, wireless telephones, fax machines and any equipment that uses touch-tone dialing. This dialing mode is recognized by the dual-tone it generates, which can be heard by the caller on the handset as the numbers are dialed. Procedures for using these types of telephones are outlined following the symbol **"DTMF"**.

Important
Instructions for "Flash" feature valid only for a DTMF telephones. If you have a touch-tone telephone (MF) that does not feature a "Flash" key, placing the phone on-hook and off-hook momentarily will simulate the action of the Flash key.

Warning
For more information on the operation of system telephones, features and available facilities refer to the Instructions Manual provided with your telephone.

6 Operation

This chapter describes the procedures for powering up and initializing the systems.

Warning
Powering up and initializing the system is a task that must be performed only by authorized technical personnel.

Step	Action (Instructions)	
1.	Connecting the system to its power supply (Connect the power cable -> System Startup).	6-1
2.	Activating System Programming	6-1
3.	Programming with a Telephone Set	6-2
4.	Programming the system using a PC	6-3
5.	HiPath 1100 Applications	6-50

Connecting the system to its power supply

Procedure

Step	Procedure
1.	Complete installation of all modules and system (Chapter 4, “Installation”).
2.	Power up the system.
3.	Wait a few moments for the system to load the software.

Activating System Programming

The HiPath 1100 system comes with a factory default configuration, which is described in the programming tables.

If an update or modification is required, there are two possible programming options:

Programming Options	Page
Using a system telephone or a Standard MF telephone	6-2
Using a computer	6-3

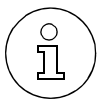
6.1 Programming with a Telephone Set

System programming can only be executed using the system's **first extension slot** (default extension 11) with an analog extension (MF), a **KS-type** system telephone or an **optiPoint 500** system telephone. Programming cannot be done simultaneously on two extensions.

The reason for initially using a system telephone at extension slot 11/101 is that the systems are shipped from the factory with the following default settings:

- A1 and B1 slots are assigned to C1 and D1 slots on the motherboard (see "Connecting Extensions to the System's Internal MDF (Main Distribution Frame)" on page 4-38).

When using a system telephone with a display, you can follow the programming steps visually on the display.



To access the Programming Mode on the specified extensions:

- Programming Extension: *95 + PASSWORD (default: 31994).

Programming Mode Syntax

All the programming is done by entering a code then a setting.

Each additional setting entered is followed by a confirmation tone (1 beep). When the setting's entry is incorrect, it is followed by 3 beeping tones after which the system returns to its initial programming state.

There are three different ways to finalize the configuration of a setting and return to the initial state of the Programming Mode:

- Letting the entry of the setting complete automatically
- Pressing the # key after entering the setting
- Waiting 5 seconds after entering the setting.

If no code or setting is entered, the system will continue to wait for an entry or will assume that a "null entry" occurred. It will proceed to the next programming step according to the code first entered.

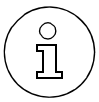
After a setting is programmed, the display will return to the initial state of the Programming Mode. To exit Programming Mode simply replace the handset.

Issues Concerning Changes to the Default Password

Access to the system's Programming Mode is protected by password to prevent unauthorized access.

To change the default password (31994) you must enter Programming Mode:

- Programming Extension: * 95 +31994 + 80 + (XXXX (new password) + XXXXX (confirm new password)
- Make a note of the new password and store it in a safe place.



If you forget your password, you can use the following code sequence to regain access for programming:

- # + 95 + 31994431.

This information should not be made available to the user.

6.2 Programming the system using a PC

The system CD contains the software packages required for installation using a PC (see “HiPath 1100 Applications” on page 6-50).

Follow these steps and note the following when programming the system by using a computer:

Topic	Page
Basic Requirement:	6-3
Software Installation	6-3

Basic Requirement:

- Standard IBM PC, Pentium 333 MHz processor (minimum);
- 128 MB RAM (minimum)
- Microsoft Windows 98 SE, Windows 2000, Windows ME or Windows XP;
- SVGA Color Monitor, 800x600 resolution (minimum)
- Free disk space: 150 MB (minimum).

Installation:

The system may be programmed using a computer by selecting one of the following options :

PC connection <--> HiPath 1100	Page
Local connection	6-16
With a V.24 Serial Interface	6-16
With an USB Interface	6-4
With an ADSL Module (LAN)	6-6

With optiPoint	6-10
Remote or Local Connection	6-50
With an Analog Modem	6-13
With an ISDN modem using a S_0 module	6-16

6.2.1 Local connection

6.2.1.1 V.24 Serial Interface

For this option, HiPath 1100 applications must be installed. After restarting the computer configure the settings on the CommServer.

Procedure:

1. Make sure the HiPath 1100 system is turned on.
2. Insert the HiPath 1100 CD in the CD drive;
   If Auto-Run is not configured, go to the Start menu on Windows, click “Run“ and then select the “Browse“ button in the dialog box. Open the file SETUP.EXE on the CD drive.
3. In the Setup window, select the language you want to use
4. A window will appear where you can select the software to be installed
5. Select the software components you wish to install and install them. For programming the HiPath 1100 system, the following applications must be installed:

- HiPath 1100 Manager
- CommServer (installs automatically).

6. After installation of each component, a message is displayed indicating that the installation was successfully completed. Click "Next" every time it appears;
7. Click "Finish" to close the installation window. This completes the software installation. If Windows prompts for restarting, restart your computer.
8. After installation is completed, configure the Communication Server (see Figure 6-1). Right-click the CommServer icon on the Windows status bar and select ”Properties.” Specify these settings:

- Connection Type
- Baud Rate 19200 (Default) / 38400 / 57600 / 115200 baud
- COM port

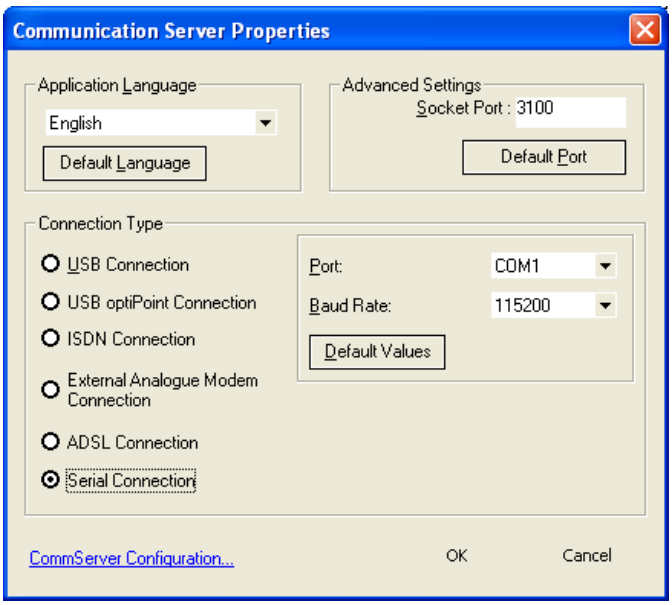


Figure 6-1 Communication Server Properties - Configuring a V.24 Serial Interface

9. CommServer is called again whenever a HiPath 1100 application is activated.

When an ADSL module is installed on a PABX, the Interface cannot be used.V.24 serial

6.2.1.2 USB Interface

In this case there are two possibilities: USB Interface or USB Interface + CAPI Interface.

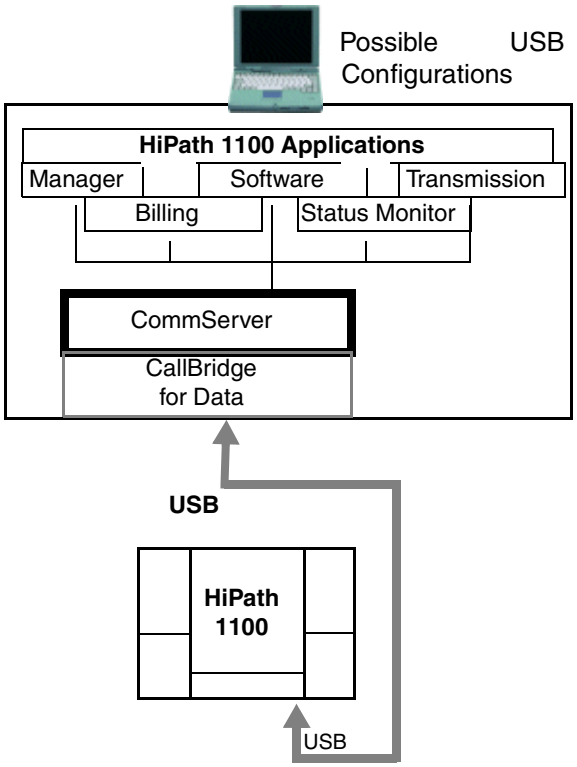


Figure 6-2 Possible USB Configurations

For carrying out HiPath 1100 administration using a computer and a USB interface, you must install the proper CallBridge for Data USB drivers specific for the HiPath 1100 family. This allows the computer to communicate with the system. This task must be complete before installing the HiPath 1100 applications.

Install the required drivers (see Capítulo 6, “HiPath 1100 USB Drivers”) and after that start installing applicationsHiPath 1100:

Procedure:

1. Insert the HiPath 1100 CD in the CD drive;
   If Auto-Run is not configured, go to the Start menu on Windows, click “Run“ and then select the “Browse“ button in the dialog box. Open the file SETUP.EXE on the CD drive.
2. In the Setup window, select the language you want to use
   Once the language has been selected, all corresponding country-specific settings will be established.
3. A window will appear where you can select the software to be installed

4. Select the software components you wish to install and install them. For programming the HiPath 1100 system, the following applications must be installed:

- HiPath 1100 Manager
- CommServer (installs automatically).

5. After installation of each component, a message is displayed indicating that the installation was successfully completed. Click "Next" every time it appears;

6. Click "Finish" to close the installation window. This completes the software installation. Windows may display a message to restart the computer. If this occurs, restart the computer.

7. After installation is completed, configure the Communication Server (see Figure 6-3). Right-click the CommServer icon on the Windows status bar and select ”Properties”:

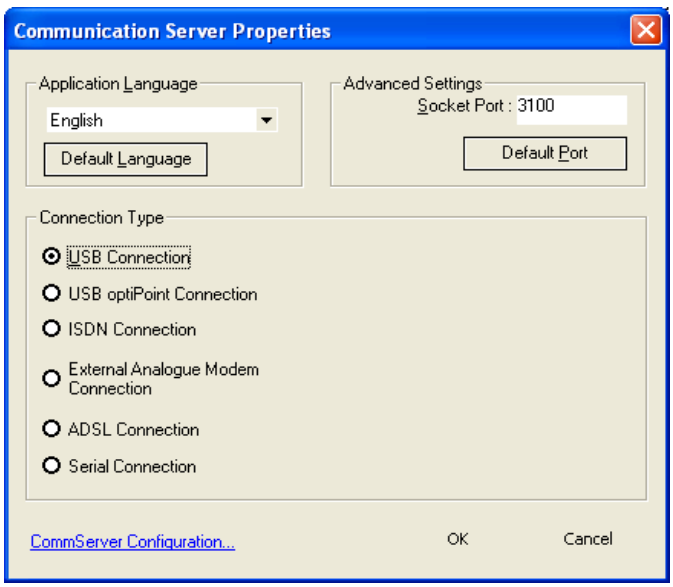


Figure 6-3 Communication Server Properties - Configuring a USB Connection

8. CommServer is called again whenever a HiPath 1100 application is activated.

6.2.1.3 ADSL Module (LAN)

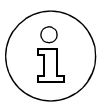
With this option an internal network access is used with an ADSL module. In order to do this, HiPath 1100 applications must be installed. After restarting your computer, configure the appropriate settings for the CommServer.

Procedure:

1. Insert the HiPath 1100 CD in the CD drive;
   If Auto-Run is not configured, go to the Start menu on Windows, click “Run“ and then select the “Browse“ button in the dialog box. Open the file SETUP.EXE on the CD drive.
2. In the Setup window, select the language you want to use
3. A window will appear where you can select the software to be installed
4. Install your selected software components sequentially. For programming the HiPath 1100 system, the following applications must be installed:

- HiPath 1100 Manager and
- CommServer (installs automatically).

5. After installation of each component, a message is displayed indicating that the installation was successfully completed. Click "Next" every time it appears;
6. Click "Finish" to close the installation window. This completes the software installation. Windows may display a message to restart the computer. If this occurs, restart the computer.
7. After installation is completed, configure the Communication Server (see Figure 6-4). Right-click the CommServer icon on the Windows status bar and select ”Properties.”
   1. Select ADSL connection
   2. Specify the IP for the ADSL module:
      When the .Obtain IP automatically. checkbox is selected, the CommServer will be automatically configured with the computer’s default gateway IP. Otherwise, the ADSL module IP can be manually entered into the CommServer.



When an ADSL module is installed on a PABX, the Interface cannot be used.V.24 serial

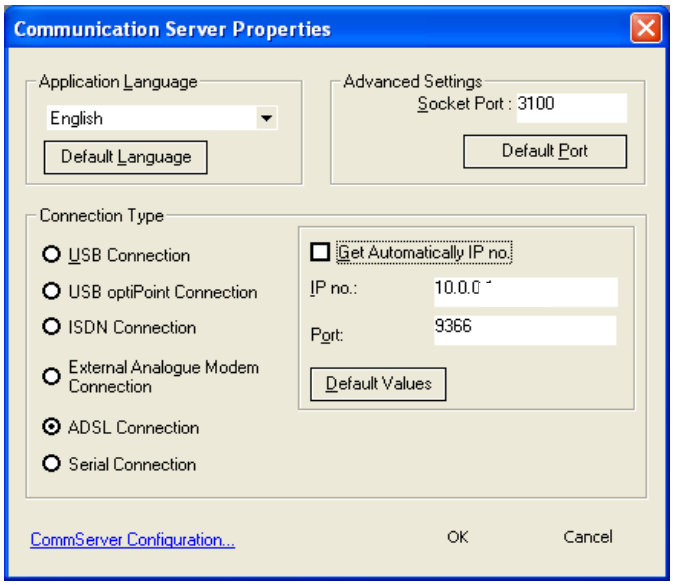


Figure 6-4 Communication Server Properties - Configuring an ADSL Connection

8. When a HiPath 1100 application is activated, the server starts automatically.

6.2.1.4 optiPoint Interface

optiPoint 500 telephones that feature a USB Interface (Advance, Basic/Standard/Economy, Entry) can be used as an USB interface for performing administrative tasks.

In this case there are two options for connecting via optiPoint: VCOM or CAPI.

a) Connections via optiPoint VCOM: This allows for simultaneous connection of up to 8 optiPoint telephones to the system, although speed is affected.
For this type of connection you can use either Administration USB drivers or Administration+CAPI Interface USB drivers.

b) Connections via optiPoint CAPI: With this configuration the optiPoint connection is up to 4 times faster when compared to a VCOM (Item A) optiPoint connection. However, only one Administration connection at a time is allowed. Other Administration configurations via CAPI optiPoint or ISDN remote connections to the system cannot take place while there is a CAPI connection in progress.
For this type of connection you must use either Administration USB drivers or Administration+CAPI Interface USB drivers.

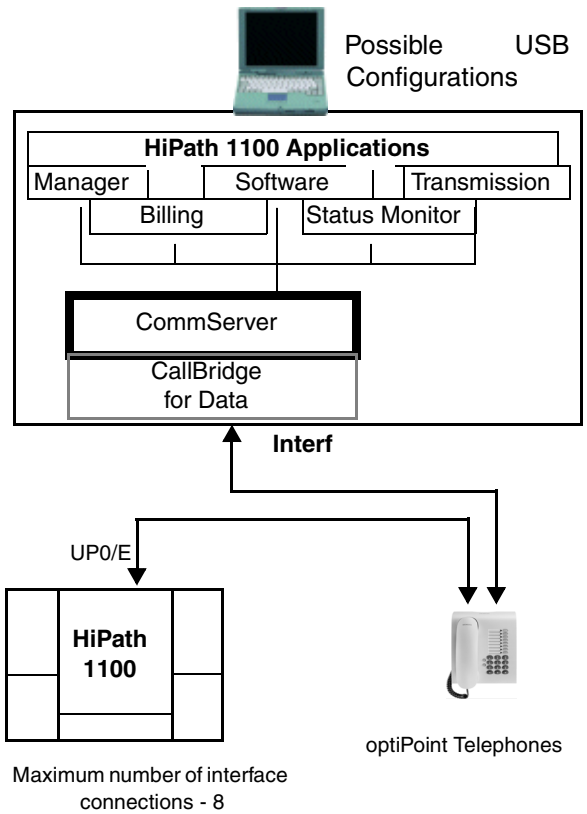


Figure 6-5 Possible optiPoint Configurations

To perform HiPath 1100 administrative tasks on a computer using an optiPoint interface, you must first install the appropriate USB drivers for optiPoint, according to the connection to be used (see Capítulo 6, “optiPoint USB Drivers”) and start installing HiPath 1100 applications:

Procedure:

1. Insert the HiPath 1100 CD in the CD drive;
   If Auto-Run is not configured, go to the Start menu on Windows, click “Run“ and then select the “Browse“ button in the dialog box. Open the file SETUP.EXE on the CD drive.
2. In the Setup window, select the language you want to use
   Once the language has been selected, all corresponding country-specific settings will be established.
3. A window will appear where you can select the software to be installed
4. Select the software components you wish to install and install them. For programming the HiPath 1100 system, the following applications must be installed:

- HiPath 1100 Manager
- CommServer (installs automatically).

5. After installation of each component, a message is displayed indicating that the installation was successfully completed. Click "Next" every time it appears;
6. Click "Finish" to close the installation window. This completes the software installation. Windows may display a message to restart the computer. If this occurs, restart the computer.
7. After installation is completed, configure the Communication Server (see Figure 6-6). Right-click the CommServer icon on the Windows status bar and select ”Properties”:

a) Connections via optiPoint VCOM:

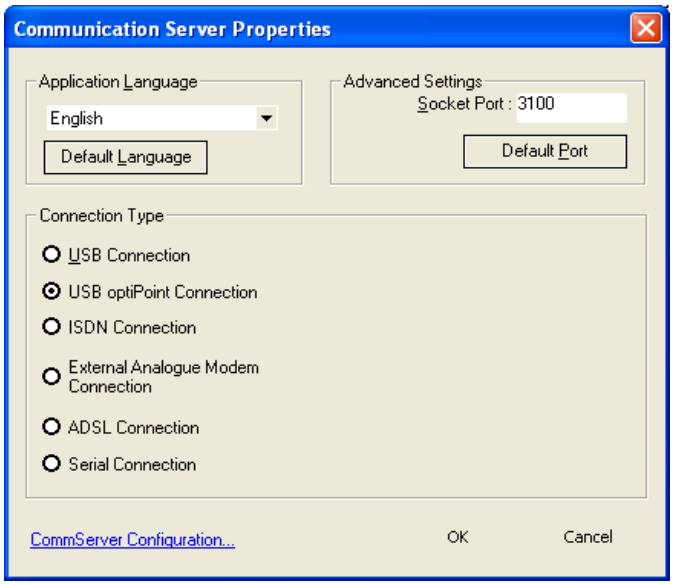


Figure 6-6 CommServer Properties - optiPoint Connection Configuration.

b) Connections via optiPoint CAPI:

- Connection Type: ISDN Connection
- Phone #: 800
- Your MSN: --- (entry not required)

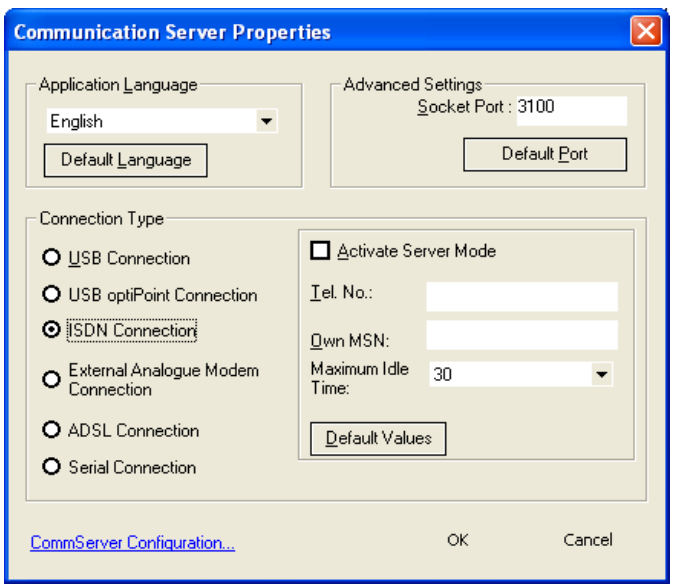


Figure 6-7 CommServer Properties - optiPoint CAPI Configuration.

6.2.2 Remote or Local Connection

6.2.2.1 External Analog Modem

For this option, the HiPath 1100 applications are installed. After restarting the computer configure the settings on CommServer, HiPath 1100 Manager and the HiPath 1100 system.

Procedure:

1. Connect the analog modem (to connect the modem's extension, see item 4.7 - Connecting Extensions to the System's Internal MDF) as follows:

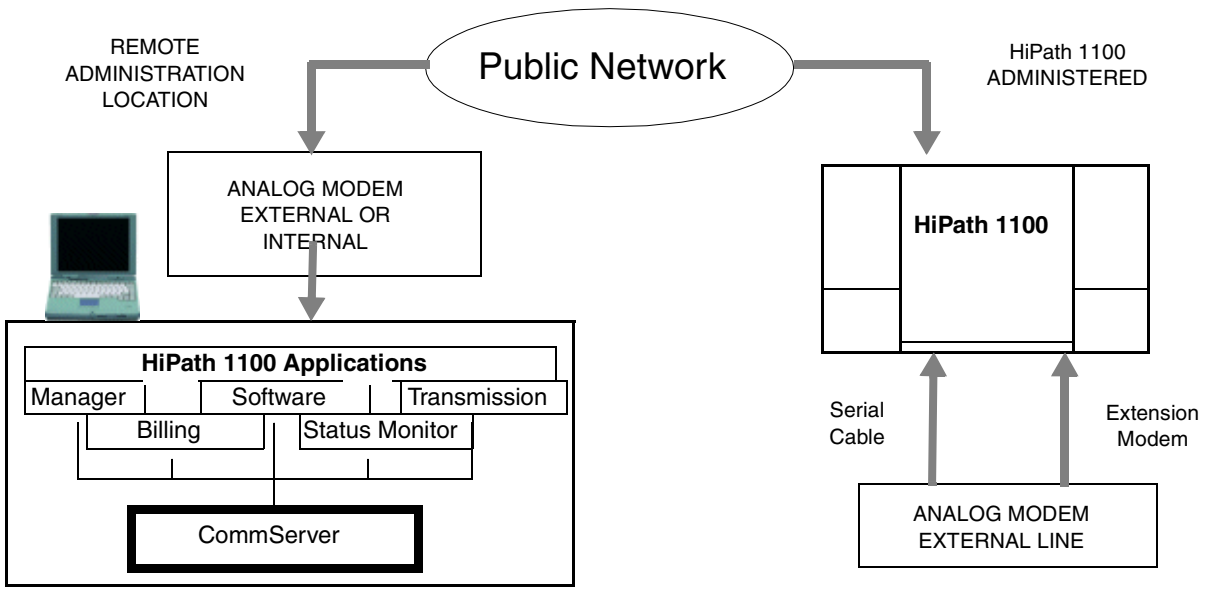


Figure 6-8 External analog modem connection

2. Insert the HiPath 1100 CD in the CD drive;
   If Auto-Run is not configured, go to the Start menu on Windows, click "Run" and then select the "Browse" button in the dialog box. Open the file SETUP.EXE on the CD drive.
3. In the Setup window, select the language you want to use
4. A window will appear where you can select the software to be installed
5. Install your selected software components sequentially. For programming the HiPath 1100 system, the following applications must be installed:

- HiPath 1100 Manager and
- CommServer (installs automatically).

6. After installation of each component, a message is displayed indicating that the installation was successfully completed. Click "Next" every time it appears;

7. Select “Close“ to close the installation window. Installation is then completed and the computer has to be restarted.
8. After restarting the computer, check the default modem (US Robotics) configuration on the HiPath 1100 Manager and change the following settings to match your modem (see the modem’s manual, if necessary):

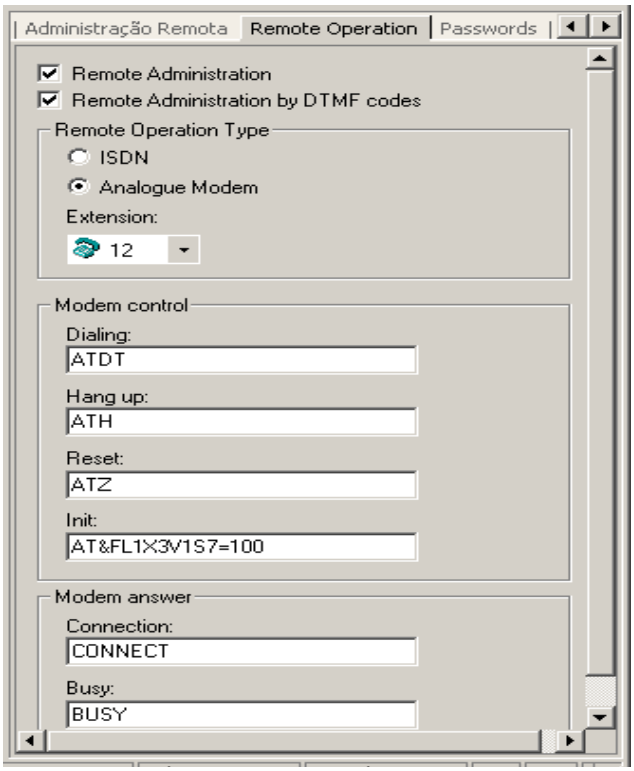
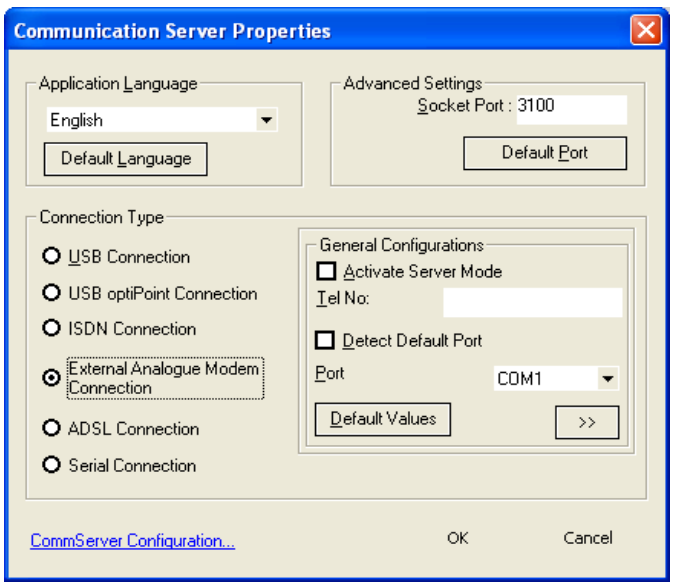


Figure 6-9 HiPath 1100 Manager Configuration - Analog Modem

9. On the HiPath 1100 remote system, compare the default modem configuration (US Robotics) with your modem configuration (see the modem's manual). If necessary, change the following information:



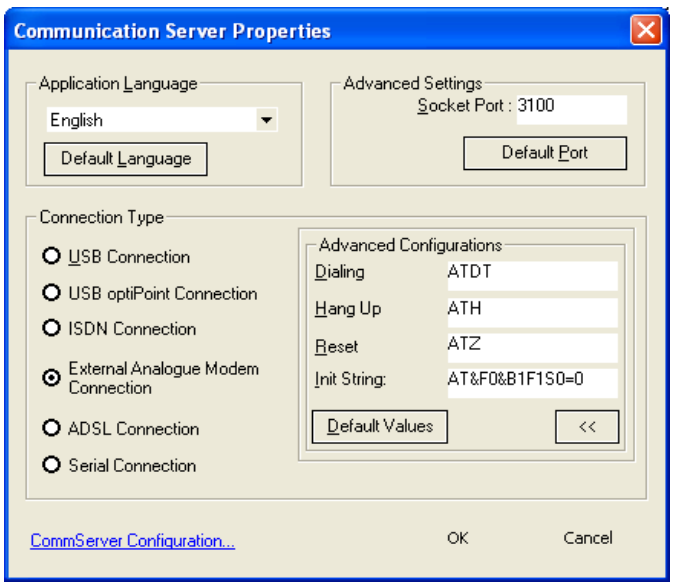


Figure 6-10 CommServer Configuration - Remote Analog Modem

10. After exiting the CommServer, the server will restart automatically whenever a HiPath 1100 application is activated.

6.2.2.2 ISDN modem via S_0 module

The system can be administered remotely or locally through an ISDN interface.
For this option, only the HiPath 1100 applications are installed. After restarting the computer (if Windows prompts you to restart the computer) configure the settings for the CommServer.

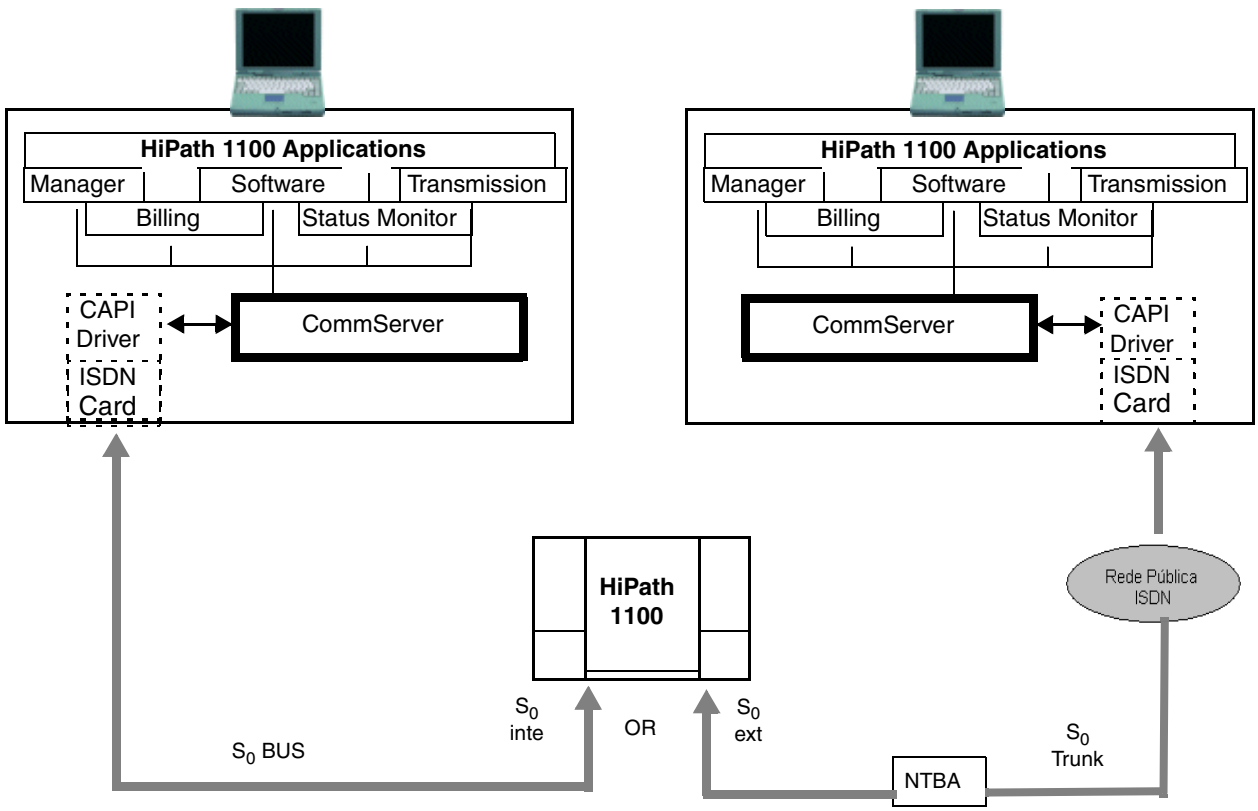


Figure 6-11 ISDN Configuration Options

Procedure:

1. Make sure the HiPath 1100 system is turned on.
2. Insert the system CD in the CD drive.
   If Auto-Run is not configured, go to the Start menu on Windows, click “Run“ and then select the “Browse“ button in the dialog box. Open the file SETUP.EXE on the CD drive.
3. In the Setup window, select the language you want to use
4. A window will appear where you can select the software to be installed

5. Install your selected software components sequentially. For programming the HiPath 1100 system, the following applications must be installed:

- HiPath 1100 Manager and
- CommServer (installs automatically).

6. After installation of each component, a message is displayed indicating that the installation was successfully completed. Click "Next" every time it appears;
7. Select “Close“ to close the installation window. Installation is then completed and the computer has to be restarted.
8. Following the boot sequence, configure the CommServer. Right-click the CommServer icon on the Windows status bar and select ”Properties.” Specify these settings:

- Connection Type: ISDN Connection via S_0 Trunk
- Phone #: Telephone number to be dialed by CommServer.
- Your MSN: CommServer MSN.

or

- Connection Type: ISDN Connection via S_0 Bus
- Phone #: 800
- Your MSN: No entry required

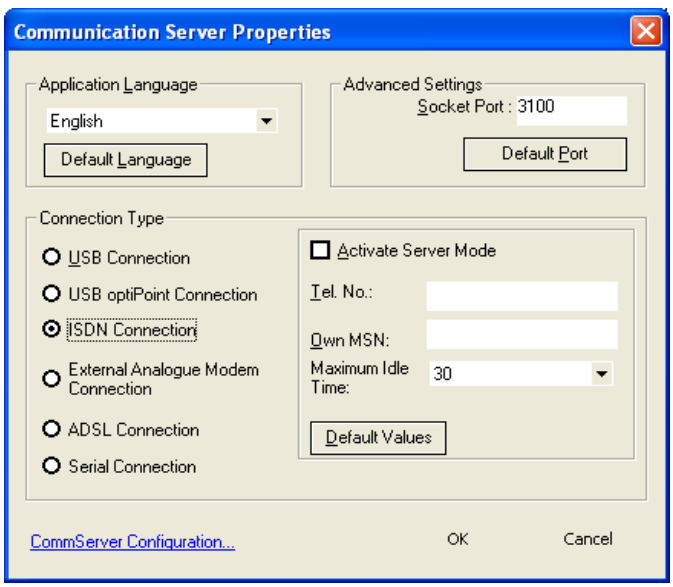


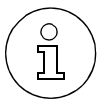
Figure 6-12 CommServer Properties - Configuration of ISDN Connections

9. When a HiPath 1100 application is activated, the server starts automatically.

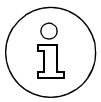
6.3 Driver Installation

6.3.1 HiPath 1100 USB Drivers

Two types of USB drivers can be installed for the HiPath 1100 system: Administration USB driver or Administration + CAPI Interface USB driver.
If all you need is administration of the HiPath 1100 system, HiPath 1100install the Administration USB drivers package. If you wish to use CAPI services, in addition to performing HiPath 1100 system administration, you will need to install the Administration + CAPI Interface drivers.



Administrator access is required for performing the installation under Windows 2000/XP.



If other PABX drivers or an ISDN card are already installed on the system, they must be completely uninstalled before installing any other driver.

Procedure:

6.3.1.1 Installation Setup

1. Make sure the HiPath 1100 system is turned on (do not connect the USB cable at this point; this should be done during driver installation)
2. Insert the HiPath 1100 CD in the CD drive

3. Select USB Drivers option

Figure 6-13 Installation Setup - USB Drivers

4. Select the type of driver to install

Figure 6-14 Installation Setup - USB Drivers

5. Follow the Installer's instructions. For each option there is a text box describing how to proceed.

6.3.1.2 Installing USB Drivers‘

Perform the installation that matches your operating system:

Operating System	
Windows 98 SE	6-20
Windows ME	6-23
Windows 2000	6-26
Windows XP	6-29

Windows 98 SE

Additional system components may need to be installed during driver installation. So please have the Windows 98 CD available.

1. Connect the HiPath 1100 system to the computer
2. The Add New Hardware Wizard window appears. A message will appear indicating that Setup will search for new Composite USB device drivers. Click "Next" to proceed.
3. Select the option "Search for the best driver for your device (Recommended) and click .Next. to confirm

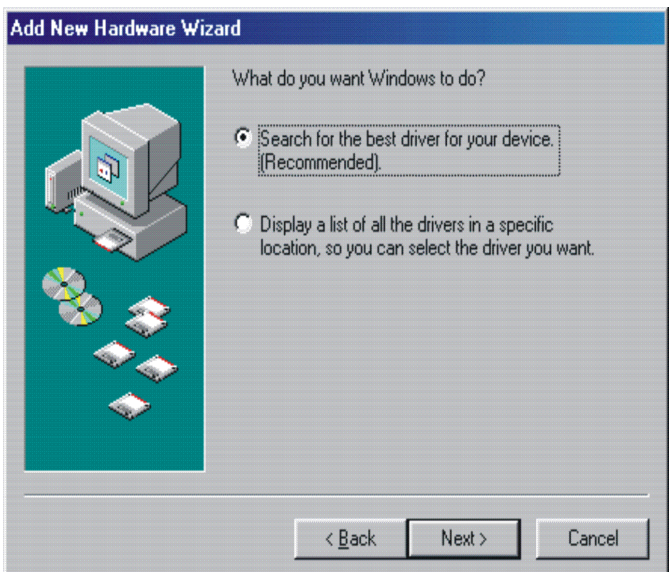


Figure 6-15 Windows 98 SE - USB Driver Installation

4. Select the “Specify a location“ checkbox and click “Browse“ to select the directory where the uncompressed driver is stored. Drivers can be found on the CD, in the folder \Software\USB Drivers. The driver is decompressed in C:\Temp (Default). If the Administration driver is selected, the directory path will be C:\Temp\HiPath1100_Adm_Drivers_040. If you select the Administration + CAPI Interface, the directory path will be C:\Temp\HiPath1100_AdmCAPI_ Drivers_040. Select a folder and click "Next";

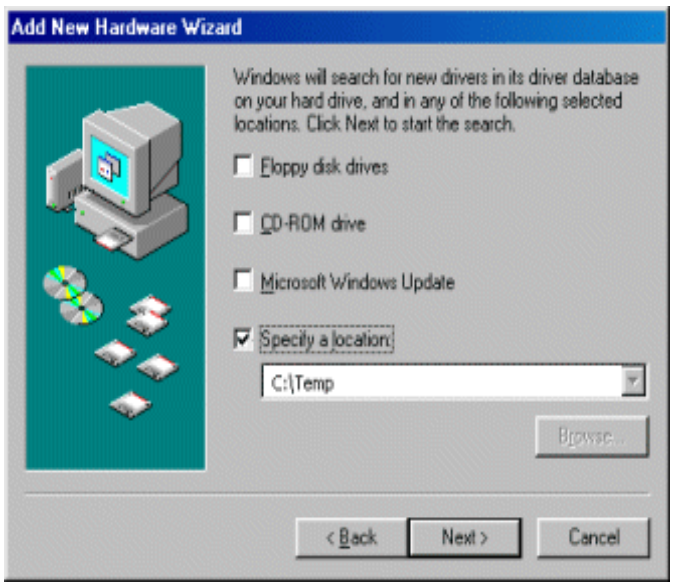


Figure 6-16 Windows 98 SE - USB drivers installation location

5. A message will appear informing that a driver has been found. Click "Next" to proceed.
6. The installation of the USB drivers is confirmed. Click .Finish.
7. A message appears informing that HiPath 1000 is being searched. Repeat driver installation procedures for USB interface devices (Steps 1 to 4).

To install administration drivers + CAPI Interface follow these steps:

8. During installation of the HiPath 1000 (CAPI Interface) configure these two settings:
9. In the next window select "EURO-ISDN (DSS1)" and click "Next":

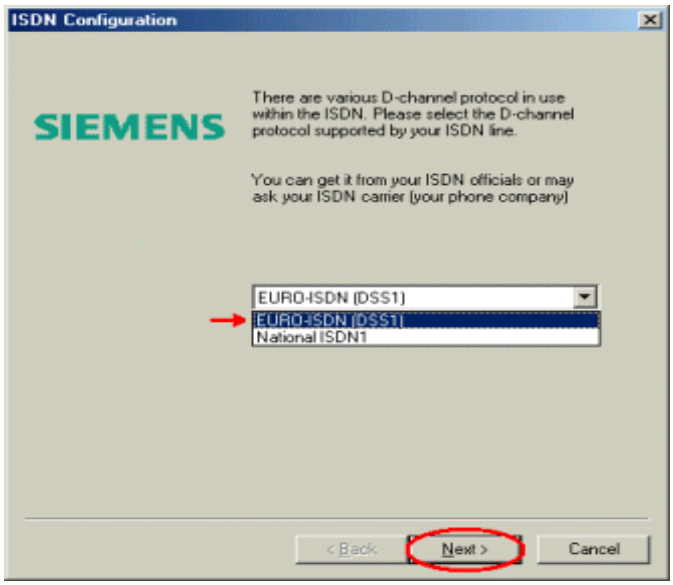


Figure 6-17 Windows 98 SE - selection for ISDN

10. Enter an available extension number in the "Phone # (MSN)" field (for HiPath 1120/1150 switches the default extension is 10; for HiPath 1190 the default extension is 100). Click "Next" to confirm. The same window appears again. Click "Next" one more time without entering anything in any field:

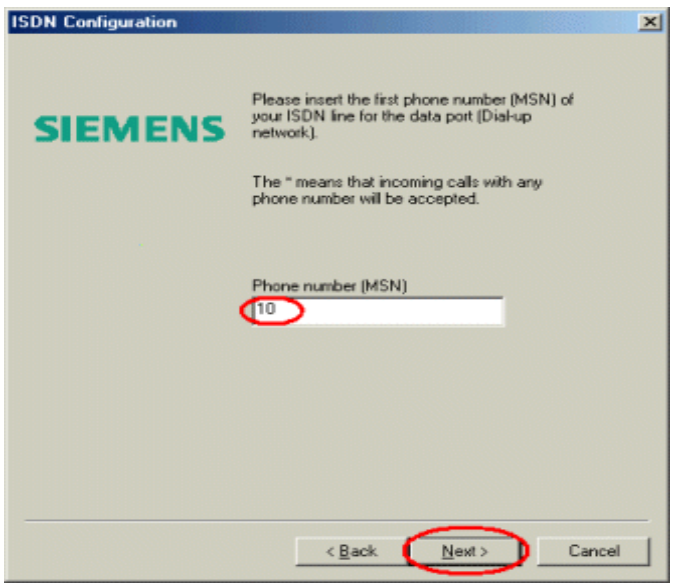


Figure 6-18 Windows 98 SE - MSN Number

10. The installation of the USB drivers is now completed. CAPI applications installation will now start automatically (see “CAPI Application Setup” on page 6-47).

Windows ME

1. Connect the HiPath 1100 system to the computer
2. The Add New Hardware Wizard window appears. A message will appear indicating that Setup will search for new Composite USB device drivers. Click "Next" to proceed.
3. Choose "Specify the location of the driver (Advanced)" and click "Next." Click "Next" to proceed.

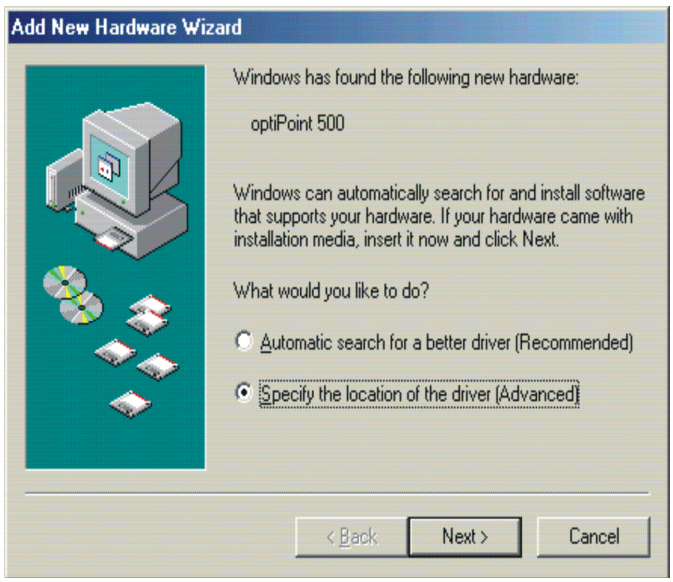


Figure 6-19 Windows ME - Specify installation folder.

4. Select the “Search for the best CAPI for your device (Recommended)” checkbox then select the “Specify a location” checkbox. Under Browse, select the directory where the decompressed driver is stored. Drivers can be found on the CD, in the folder \Software\USB Drivers. The driver is decompressed in C:\Temp (Default). If the Administration driver is selected, the directory path will be C:\Temp\HiPath1100_Adm_Drivers_040. If you select the Administration + CAPI Interface, the directory path will be C:\Temp\HiPath1100_AdmCAPI_ Drivers_040. Select a folder and click "Next";

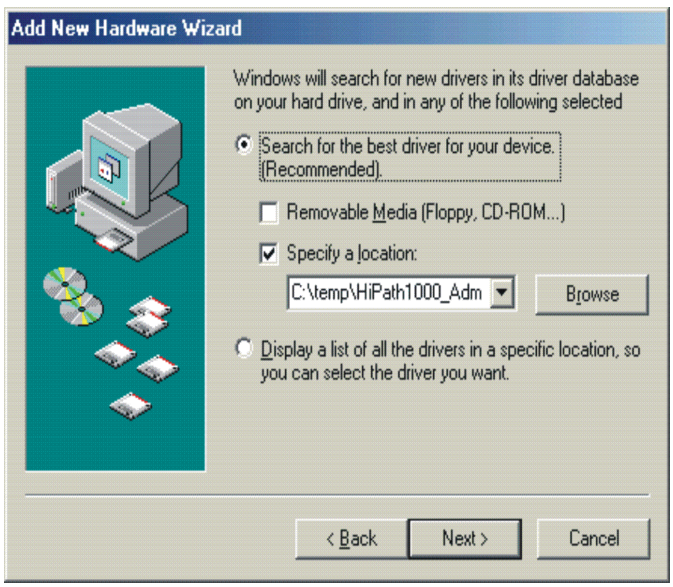


Figure 6-20 Windows ME - USB/CAPI installation location.

5. A message will appear informing that a driver has been found. Click "Next" to proceed.
6. The installation of the USB drivers is confirmed. Click "Finish."
7. A message appears informing that HiPath 1000 is being searched. Repeat driver installation procedures for USB interface devices (Steps 1 to 6)

To install administration drivers + CAPI Interface follow these steps:

8. During installation of the HiPath 1000 (CAPI Interface) configure these two settings:
9. A message will appear indicating that the best driver for the hardware has been found. Click "Next" to proceed.

- In the next window select "EURO-ISDN (DSS1)" and click "Next":

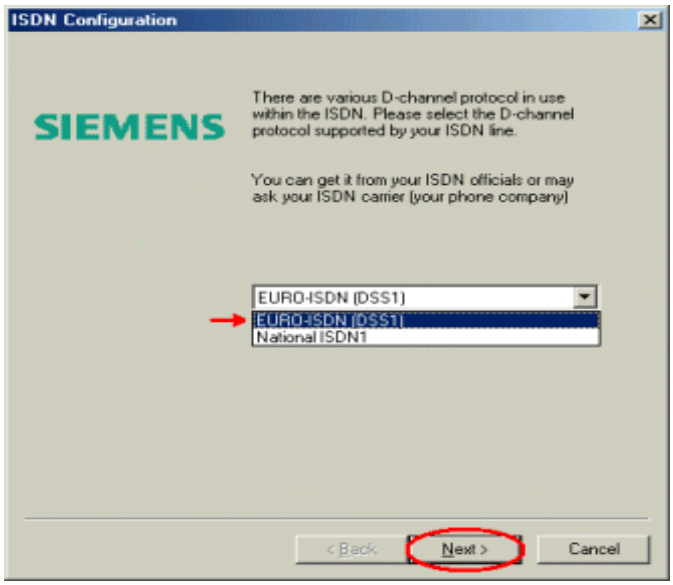


Figure 6-21 Windows ME - selection for ISDN

- Enter an available extension number in the "Phone # (MSN)" field (for HiPath 1120/1150 the default extension is 10; for HiPath 1190 the default extension is 100). Click "Next" to confirm. The same window appears again. Click "Next" one more time without entering anything in any field:

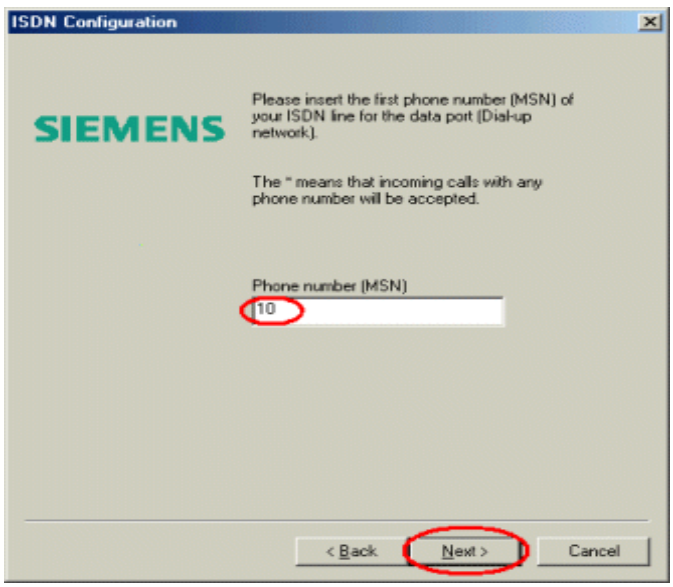


Figure 6-22 Windows SE - MSN Number

10. The installation of the USB drivers is now completed. CAPI applications installation will now start automatically (see “CAPI Application Setup” on page 6-31).

Windows 2000

In order to install any software you must have Administrator’s access privileges.

1. Connect the HiPath 1100 system to the computer
2. The Found New Hardware Wizard window appears so that new drivers can be installed. Click "Next" to proceed.
3. Select the option "Search for the best driver for your device" and click "Next."

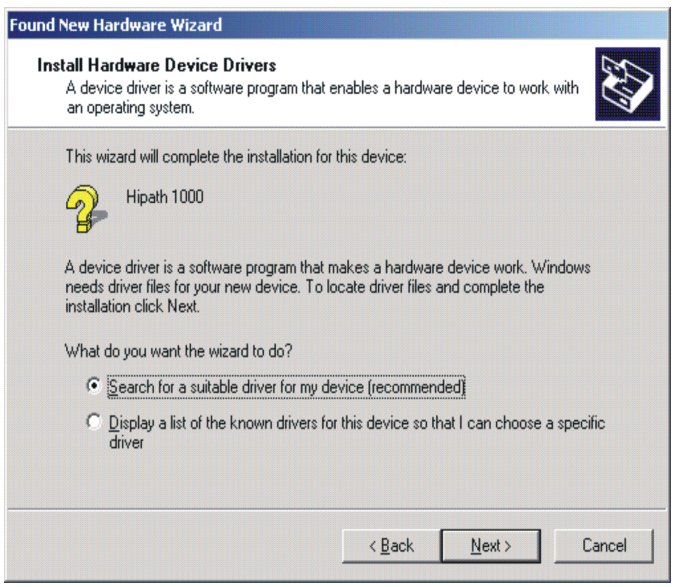


Figure 6-23 Windows 2000 - Driver location

4. Select the "Specify a location:" checkbox, if it is not selected yet, then click "Next."

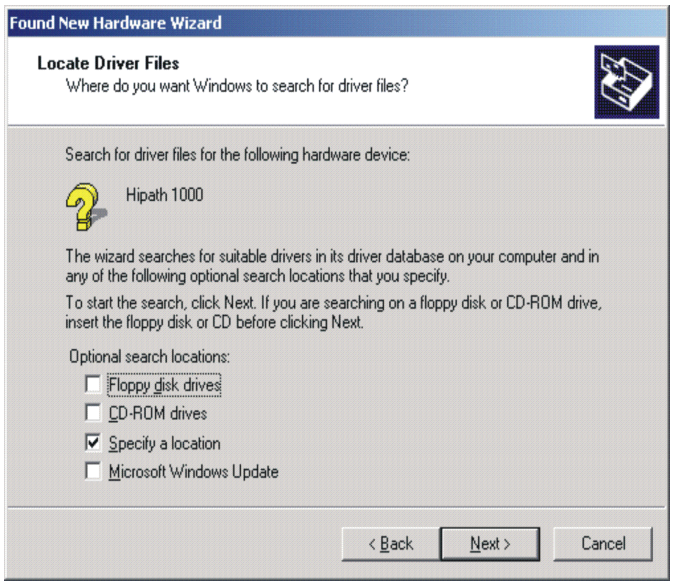


Figure 6-24 Windows 2000 - Driver location

5. A second window opens. Under Browse, select the directory where the decompressed driver is stored. Drivers can be found on the CD, in the folder \Software\USB Drivers. The driver is decompressed in C:\Temp (Default). If the Administration driver is selected, the directory path will be C:\Temp\HiPath1100_Adm_Drivers_040. If you select the Administration + CAPI Interface, the directory path will be C:\Temp\HiPath1100_AdmCAPI_ Drivers_040. Select a folder and click "Next";

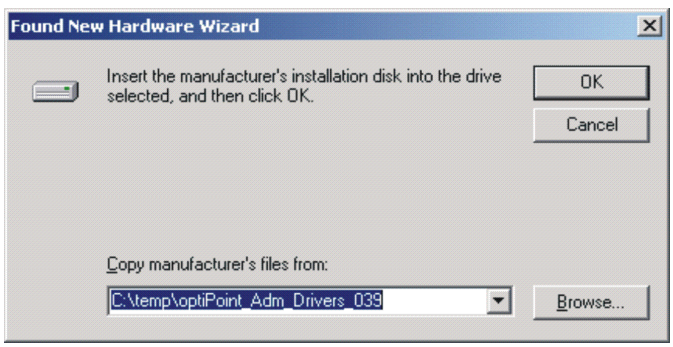


Figure 6-25 Windows 2000 - Driver location

6. A message will appear indicating that a driver has been found. Click "Next" to proceed.
7. A message appears informing that the software to be installed does not have a Microsoft digital signature. Acknowledge the message by clicking "OK."

8. The HiPath 1000 (CAPI Interface) installation will now be launched. The window with the warning about a Microsoft digital signature appears twice. Click "OK" every time it appears.
9. In the ISDN - HiPath 1000 window select “European ISDN (DSS1)“ then click “Next“.

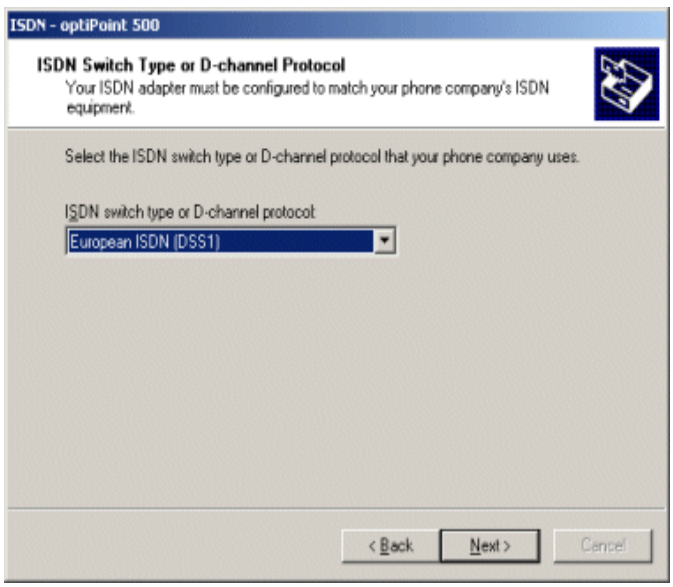


Figure 6-26 Windows 2000 - ISDN selection

10. Enter the MSN-CAPI number (see Table 7-2 on page 7-2) (for HiPath 1120/1150 the default extension is 10; for HiPath 1190 the default extension is 100) in "Add," in the Multi-subscriber Numbers" box.

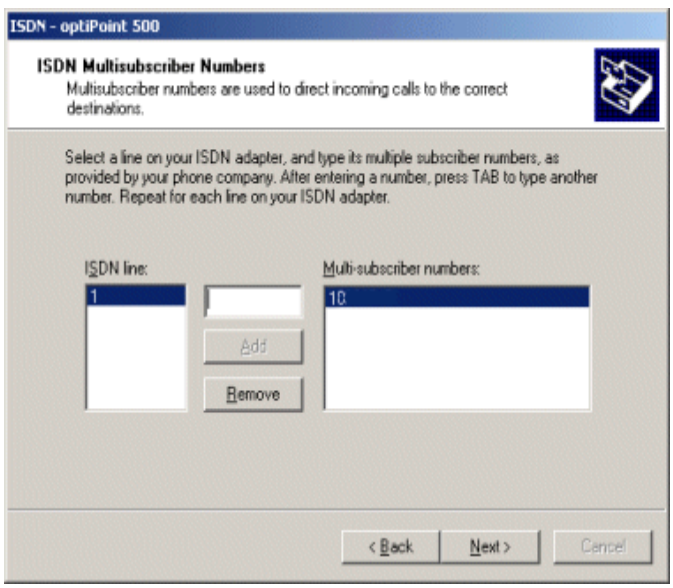


Figure 6-27 Windows 2000 - MSN

11. The installation of the USB drivers is now completed. CAPI applications installation will now start automatically (see “CAPI Application Setup” on page 6-31).

Windows XP

In order to install any software you must have Administrator’s access privileges.

Proceed as follows:

1. Connect the HiPath 1100 system to the computer using a USB cable
2. The Found New Hardware Wizard window appears so that new drivers can be installed. Choose "Install from a list or specific location (Advanced)." Click "Next" to proceed.

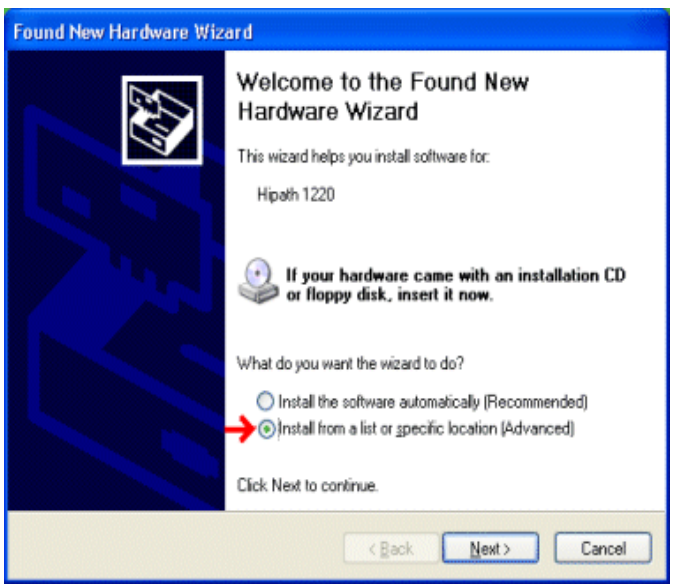


Figure 6-28 Windows XP - Driver location

3. A second window opens. Select “Search for the best CAPI in these locations” then select “Include this location in the search”. Under Browse, select the directory where the decompressed driver is stored. Drivers can be found on the CD, in the folder \Software\USB Drivers. The driver is decompressed in C:\Temp (Default). If the Administration driver is selected, the directory path will be C:\Temp\HiPath1100_Adm_Drivers_040. If you select the Administration + CAPI Interface, the directory path will be C:\Temp\HiPath1100_AdmCAPI_ Drivers_040. Select a folder and click "Next";

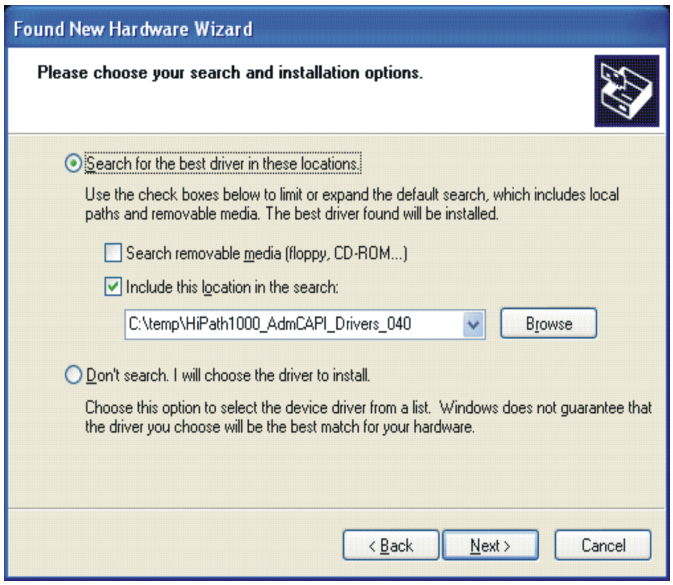


Figure 6-29 Windows XP - Driver installation location

4. Once this is completed, the installation of the HiPath 1000 will start; A message appears (three times) to the effect that the software installation did not pass the Windows logo test. Click "Next" every time it appears;

5. In the ISDN - HiPath 1000 window select “European ISDN (DSS1)“ then click “Next“.

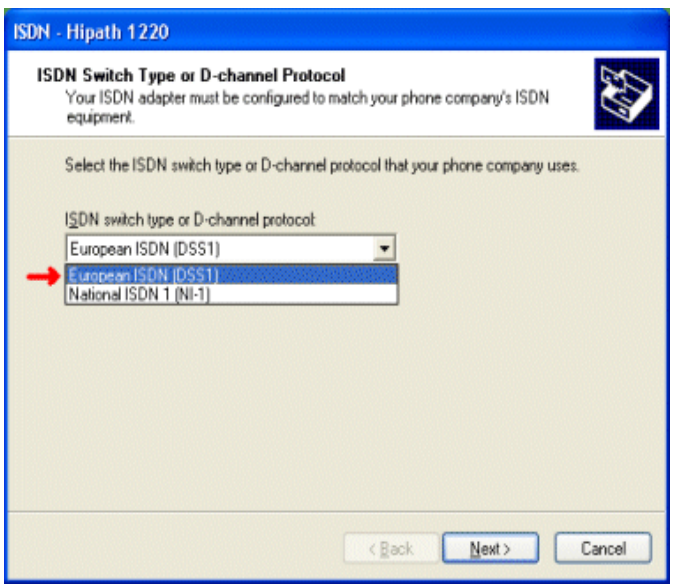


Figure 6-30 Windows XP - ISDN

6. Enter the MSN-CAPI number (see Table 7-2 on page 7-2) (for HiPath 1120/1150 the default extension is 10; for HiPath 1190 the default extension is 100) in "Add," in the Multi-subscriber Numbers" box.

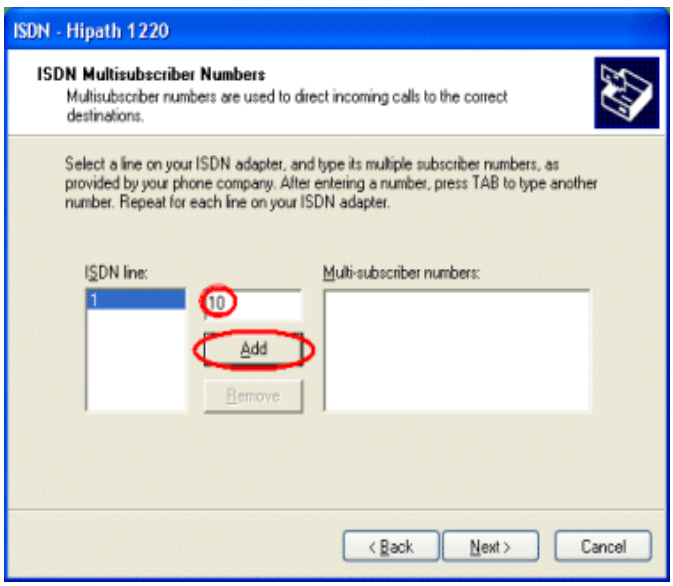


Figure 6-31 Windows XP - MSN

7. The installation of the USB drivers is confirmed. Click "Finish."
8. A message appears informing that HiPath 1000 is being searched. Repeat driver installation procedures for USB interface devices (Steps 1 to 3)
9. Click "Next" to proceed.
10. A message appears twice to the effect that the driver does not have a Windows logo. Click "Continue" every time this message appears.
11. The installation of the USB drivers is now completed. CAPI applications installation will now start automatically (see “CAPI Application Setup” on page 6-31).

6.3.1.3 CAPI Application Setup

CAPI applications installation is very simple and is the same for all Windows operating systems.

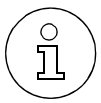
Upon conclusion of USB driver installation, the CAPI applications installation window will appear. Proceed as follows:

1. In this window select the language you want to use and click "OK" to confirm.
2. When the Welcome window appears, click "Next" to proceed. Next, the installation window will display the (default) path for installation of the CAPI applications (CallBridge for Data Utilities). You can choose a different path by selecting "Browse." Click "Next" to proceed.

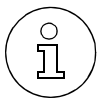
3. In the next window, create a new program folder or choose an existing folder in which to store program icons for running the corresponding applications.
4. To complete the installation process answer the introductory messages by clicking "Next" Click "Finish" to close the installation window.

The following applications are then installed on your computer:

- ISDN Setup Wizard (Windows 98 SE/ME)
- CAPI Monitor
- Uninstaller
- FaxComm + Installation
- Loopback Test
- Outgoing Numbers Configuration (MSN) (Windows 2000/XP).



Restart the computer after installation of USB drivers and CAPI applications.



The USB drivers are Plug&Play compatible, so that after installation, the HiPath 1100 system may be removed and added again to the computer configuration - by simply unplugging or connecting the USB cable. The drivers do not need to be reinstalled. The equipment is ready for operation.

6.3.1.4 Uninstall

- For the S_0 connection, follow steps 1, 6 and 7 of the procedure ;
- For the USB connection, follow steps 1 through 7 of the procedure below.

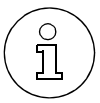
Procedure:

1. To exit CommServer right-click the CommServer icon on the Windows Status bar and select “Exit”
2. Exit all online services for CallBridge for Data;
3. Unplug from your computer the USB cable connected to the HiPath 1100 system.
4. To remove the USB drivers, proceed as follows:
   For FULL removal use Uninstall, or the Uninstall feature on the CD.

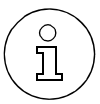
5. Uninstall CallBridge for Data Utilities (if previously installed to use online services or USB connections) by running the Uninstall program as follows: Start/Programs/CallBridge for Data Utilities/Uninstall CallBridge for Data Utilities. Once CallBridge for Data Utilities has been uninstalled, answer "No" when asked if you want to restart your computer, and proceed with step 6.
6. Uninstall all HiPath 1100 components as follows:
   Start/Settings/Control Panel/Software, then click on "Remove Software";
7. Next, restart your computer.

6.3.2 optiPoint USB Drivers

There are two types of optiPoint USB drivers that can be installed for the HiPath 1100 system: Administration USB driver or Administration USB driver + optiPoint CAPI interface.
If all you need is administration of the HiPath 1100 system, install the Administration USB drivers. If in addition to HiPath 1100 system administration you wish to use CAPI services with an optiPoint interface or perform CAPI administration using an optiPoint set, you must install the optiPoint Administration + CAPI Interface USB drivers.



Administrator access is required for performing the installation under Windows 2000/XP.



If different PABX drivers or an ISDN card are already installed on the system, they must be completely uninstalled before installing optiPoint's "CallBridge for Data."

Procedure:

6.3.2.1 Using the Installer

1. Make sure the HiPath 1100 system is turned on.
2. Insert the HiPath 1100 CD in the CD drive
3. Connect optiPoint to your computer using the USB cable. A window will announce that new hardware has been found
4. Follow the Installer's instructions. For each option there is a text box describing how to proceed.

6.3.2.2 Manual Installation

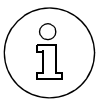
1. Make sure the HiPath 1100 system is turned on.
2. Insert the HiPath1100 CD in the CD drive
3. Connect the system to your computer using the USB cable. A window will announce that new hardware has been found
4. The New Hardware Wizard will appear. Select "Install from a list or specific location" (on Windows XP; this may be worded differently in other versions) and check the following:
5. Select "Search for the best driver in these locations" and "Include this location in the search". Drivers can be found on the CD, in the folder \Software\USB Drivers. The drive is decompressed in C:\Temp (Default). If Admin is selected, use C:\Temp\optiPoint_Adm_Drivers_039 directory. If Admin + CAPI is selected, use C\Temp\optiPoint_AdmCAPI_ Drivers_039. Select a folder and enter to confirm.
6. For Windows 2000 and Windows XP, a message will repeatedly announce that the software being installed does not have a Microsoft digital signature. Answer the prompts by clicking "Yes" or "Continue"
7. Select "Finish" to complete the installation";
8. The Found New Hardware Wizard window opens. Select "Install from a list or specific location" (Windows XP option; this may be worded differently in other versions. Enter to confirm.
9. Select "Search for the best driver in these locations" and "Include this location in the search". Drivers can be found on the CD, in the folder \Software\USB Drivers. The drive is decompressed in C:\Temp (Default). If Admin is selected, use C:\Temp\optiPoint_Adm_Drivers_039 directory. If Admin + CAPI is selected, use C\Temp\optiPoint_AdmCAPI_ Drivers_039. Select a folder and enter to confirm.

10. For Windows 2000 and Windows XP, a message will repeatedly announce that the software being installed does not have a Microsoft digital signature. Answer the prompts by clicking “Yes“ or “Continue“
11. Select “Finish“ to complete the installation.

Perform the installation that matches your operating system:

Operating System	
Windows 98 SE	6-35
Windows ME	6-38
Windows 2000	6-41
Windows XP	6-45

Windows 98 SE



Additional system components may need to be installed during driver installation. So please have the Windows 98 CD available.

1. Connect the HiPath 1100 system to the computer
2. The Add New Hardware Wizard window appears. A message will appear indicating that Setup will search for new Composite USB device drivers. Click "Next" to proceed.
3. Select the option .Search for the best driver for your device (Recommended). and click .Next. to confirm

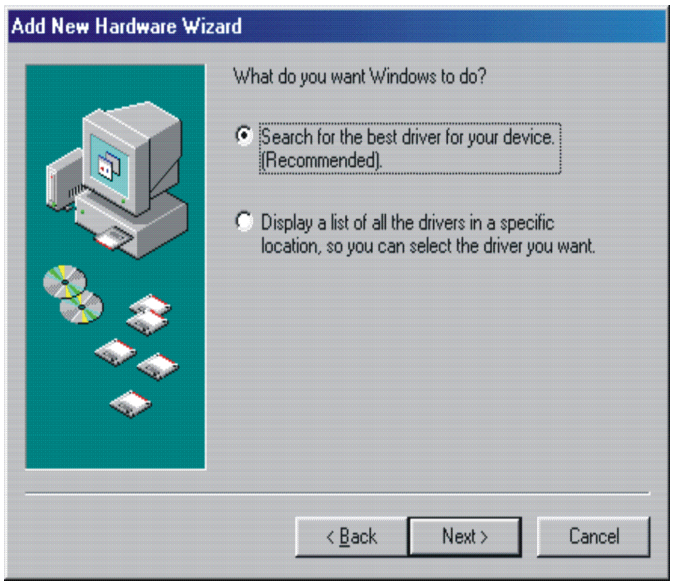


Figure 6-32 Windows 98 SE - USB drivers installation location

4. Select the “Specify a location“ checkbox and click “Browse“ to select the directory where the uncompressed optiPoint driver is stored. Drivers can be found on the CD, in the folder \Software\USB Drivers. The drive is decompressed in C:\Temp (Default). If Admin is selected, use C:\Temp\optiPoint_Adm_Drivers_039 directory. If Admin + CAPI is selected, use C\Temp\optiPoint_AdmCAPI_ Drivers_039. Select a folder and click "Next";

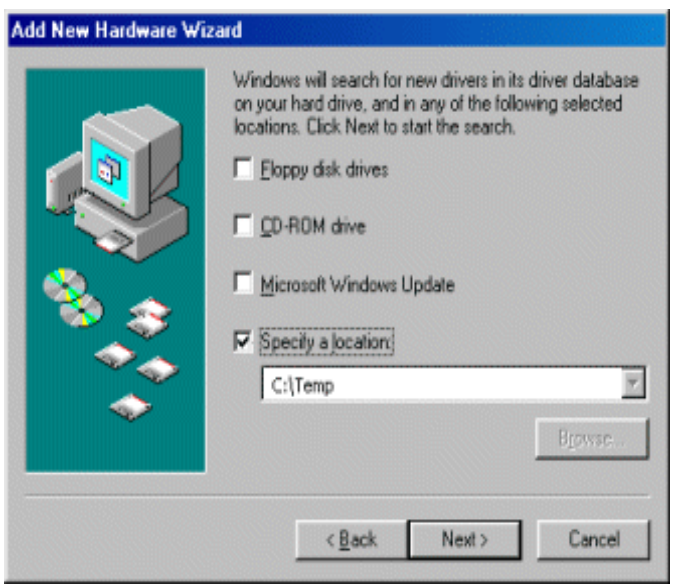


Figure 6-33 Windows 98 SE - USB drivers installation location

5. The installation of the USB drivers is confirmed. Click "Finish."

6. A message will appear informing that optiPoint is being searched. Repeat hardware driver installation (steps 1 through 4)

To install administration drivers + CAPI Interface follow these steps:

7. During installation of optiPoint (CAPI Interface) configure these two settings:

- In the next window select "EURO-ISDN (DSS1)" and click "Next":

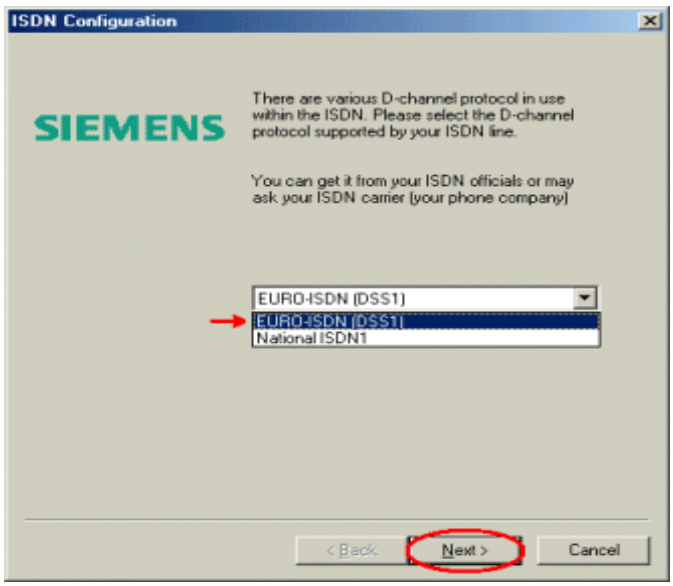


Figure 6-34 Windows 98 SE - selection for ISDN

- Enter an available extension number in the "Phone # (MSN)" field (for HiPath 1120/1150 the valid extension range X-Y). Click "Next" to confirm. The same window appears again. Click "Next" one more time without entering anything in any field:

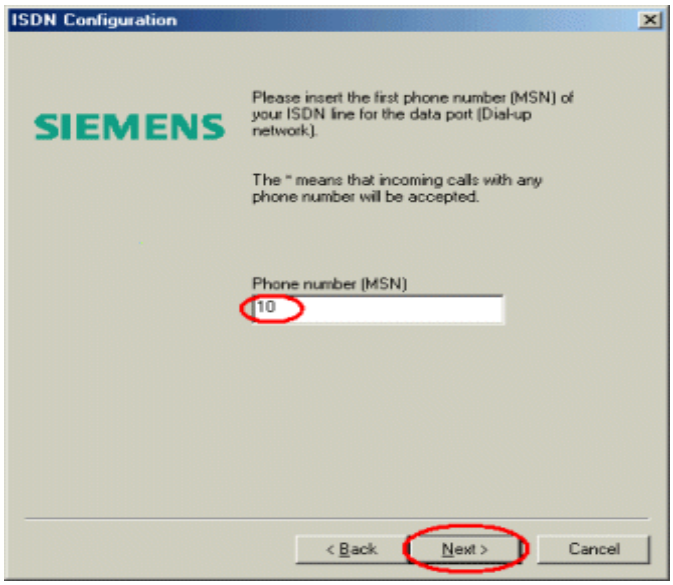


Figure 6-35 Windows 98 SE - MSN Number

10. The installation of the USB drivers is now completed. CAPI applications installation will now start automatically (see “CAPI Application Setup” on page 6-47).

Windows ME

1. Connect the HiPath 1100 system to the computer
2. The Add New Hardware Wizard window appears. A message will appear indicating that Setup will search for new Composite USB device drivers. Click "Next" to proceed.
3. Choose "Specify the location of the driver (Advanced)" and click "Next." Click "Next" to proceed.

Figure 6-36 Windows ME - Specify installation folder

4. Select the “Search for the best CAPI for your device (Recommended)” checkbox then select the “Specify a location” checkbox. Under Browse, select the directory where the decompressed driver is stored. Drivers can be found on the CD, in the folder \Software\USB Drivers. The drive is decompressed in C:\Temp (Default). If Admin is selected, use C:\Temp\optiPoint_Adm_Drivers_039 directory. If Admin + CAPI is selected, use C\Temp\optiPoint_AdmCAPI_ Drivers_039. Select a folder and click "Next";

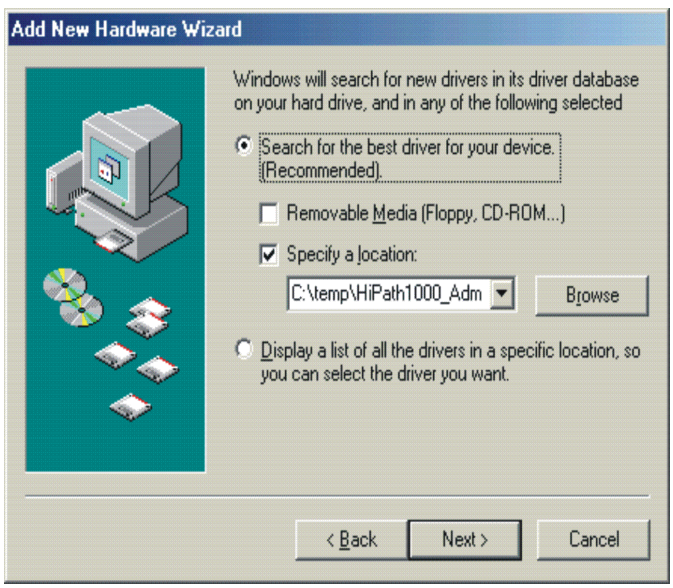


Figure 6-37 Windows ME - Specify installation folder

5. A message will appear informing that a driver has been found. Click "Next" to proceed.
6. The installation of the USB drivers is confirmed. Click "Finish."
7. A message will appear informing that optiPoint is being searched. Repeat hardware driver installation (steps 1 through 6):

To install administration drivers + CAPI Interface follow these steps:

8. During installation of optiPoint (CAPI Interface) configure these two settings:
9. A message will appear indicating that the best driver for the hardware has been found. Click "Next" to proceed.

- In the next window select "EUROISDN (DSS1)" and click "Next":

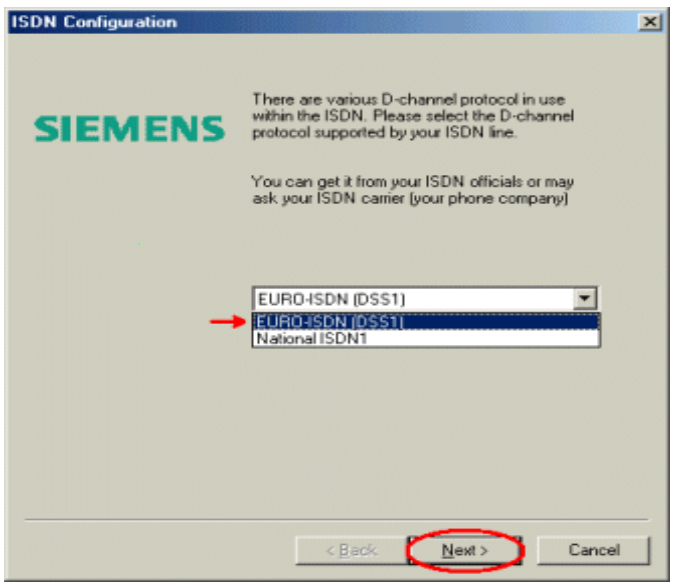


Figure 6-38 Windows ME - selection for ISDN

- Enter an available extension number in the "Phone # (MSN)" field (for HiPath 1120/1150 the valid extension range X-Y). Click "Next" to confirm. The same window appears again. Click "Next" one more time without entering anything in any field:

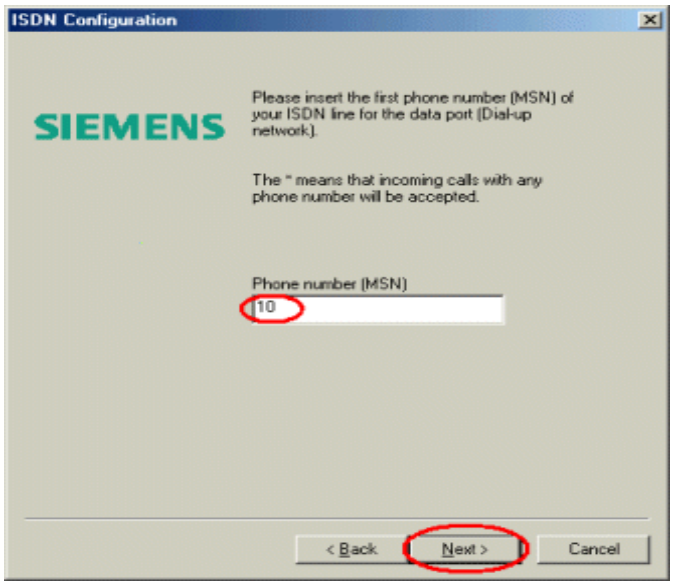


Figure 6-39 Windows SE - MSN Number

10. The installation of the USB drivers is now completed. CAPI applications installation will now start automatically (see “CAPI Application Setup” on page 6-47).

Windows 2000

In order to install any software you must have Administrator’s access privileges.

Proceed as follows:

1. Connect the HiPath 1100 system to the computer
2. The Found New Hardware Wizard window appears so that new drivers can be installed. Click "Next" to proceed.
3. Select the option "Search for the best driver for your device" and click "Next."

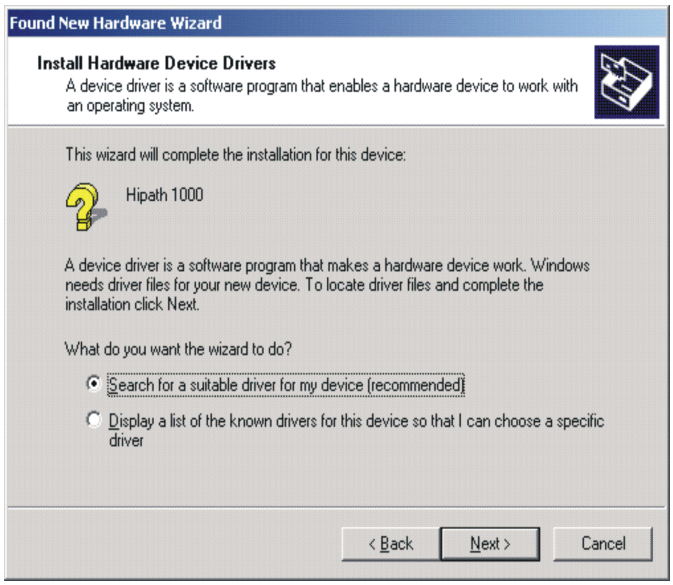


Figure 6-40 Windows 2000 - Driver location

4. Select the "Specify a location:" checkbox, if it is not selected yet, then click "Next."

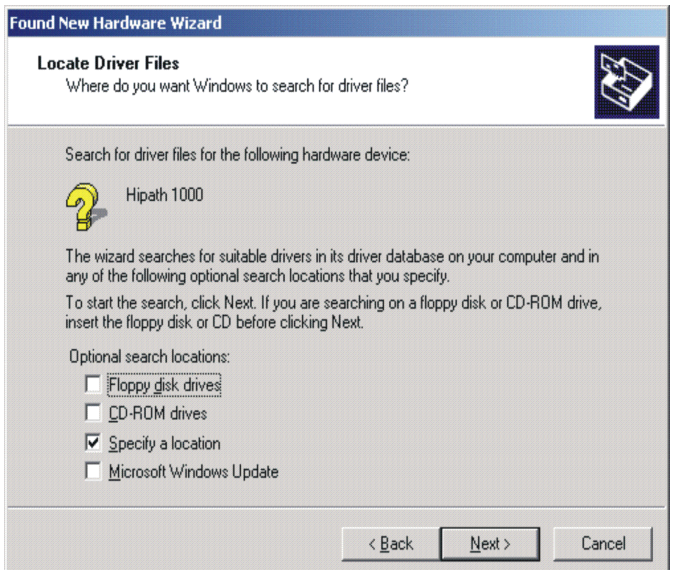


Figure 6-41 Windows 2000 - Driver location

5. A second window opens. Under Browse, select the directory where the decompressed driver is stored. Drivers can be found on the CD, in the folder \Software\USB Drivers. The drive is decompressed in C:\Temp (Default). If Admin is selected, use C:\Temp\optiPoint_Adm_Drivers_039 directory. If Admin + CAPI is selected, use C\Temp\optiPoint_AdmCAPI_ Drivers_039. Select a folder and click "Next";

Figure 6-42 Windows 2000 - Driver location

6. A message will appear indicating that a driver has been found. Click "Next" to proceed.
7. A message appears informing that the software to be installed does not have a Microsoft digital signature. Acknowledge the message by clicking "OK."
8. The optiPoint (CAPI Interface) installation will now be launched. The window with the warning about a Microsoft digital signature appears twice. Click "OK" every time it appears.

9. In the ISDN - optiPoint window select "European ISDN (DSS1)" then click "Next".

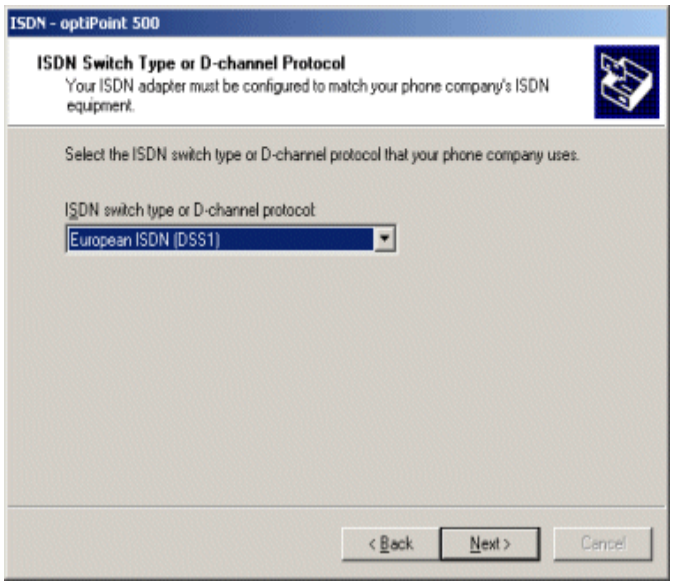


Figure 6-43 Windows 2000 - ISDN selection

10. Enter the MSN-CAPI number (see Table 7-2 on page 7-2) (for HiPath 1120/1150 the valid extension range is X-Y) in "Add," in the Multi-subscriber Numbers" box.

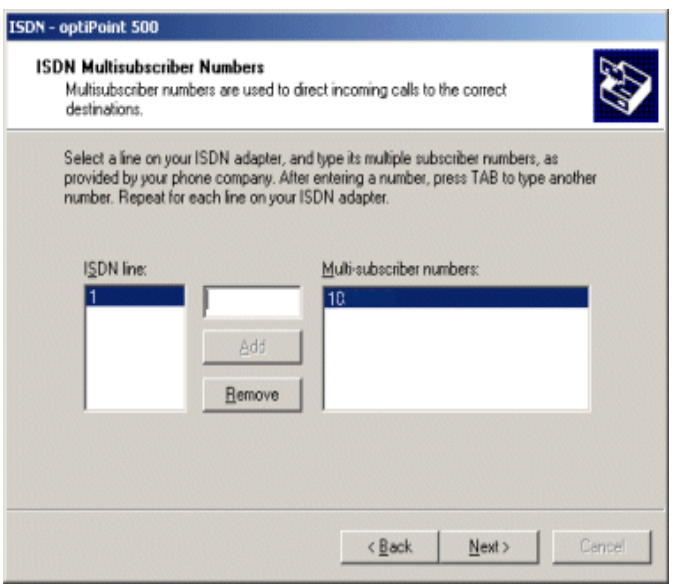


Figure 6-44 Windows 2000 - MSN

11. The installation of the USB drivers is now completed. CAPI applications installation will now start automatically (see “CAPI Application Setup” on page 6-47).

Windows XP

In order to install any software you must have Administrator's access privileges.

Proceed as follows:

1. Connect the HiPath 1100 system to the computer
2. The Found New Hardware Wizard window appears so that new drivers can be installed. Choose "Install from a list or specific location (Advanced)." Click "Next" to proceed.

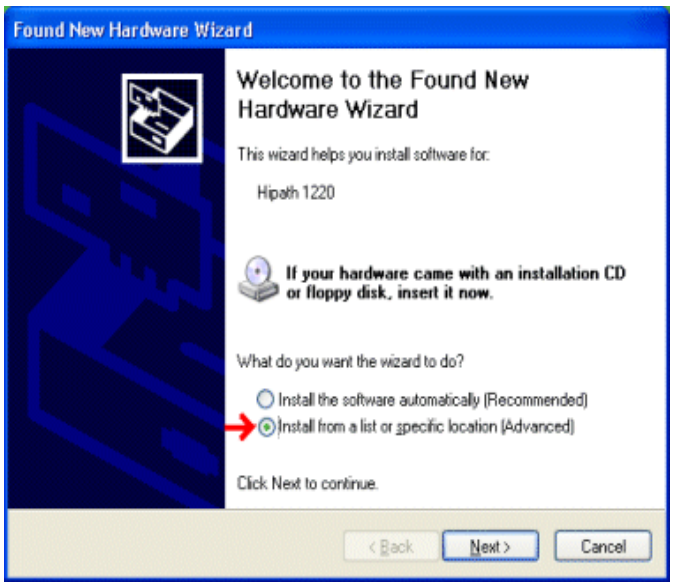


Figure 6-45 Windows XP - Driver location

3. A second window opens. Select "Search for the best CAPI in these locations" then select "Include this location in the search". Under Browse, select the directory where the decompressed driver is stored. Drivers can be found on the CD, in the folder \Software\USB Drivers. The drive is decompressed in C:\Temp (Default). If Admin is selected, use C:\Temp\optiPoint_Adm_Drivers_039 directory. If Admin + CAPI is selected, use C\Temp\optiPoint_AdmCAPI_ Drivers_039. Select a folder and click "Next";

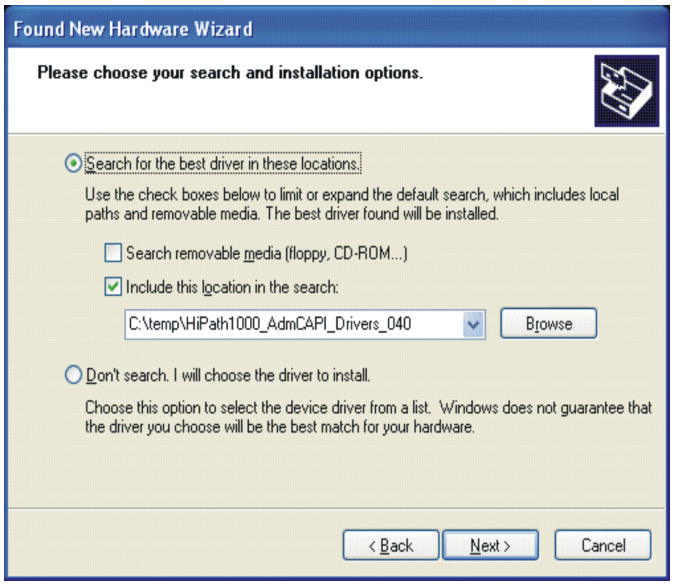


Figure 6-46 Windows XP - Driver location

4. Once this is completed, the installation of the optiPoint driver will start; A message appears (three times) to the effect that the software installation did not pass the Windows logo test. Click "Continue" every time this message appears.

5. In the ISDN - optiPoint window select "European ISDN (DSS1)" then click "Next";

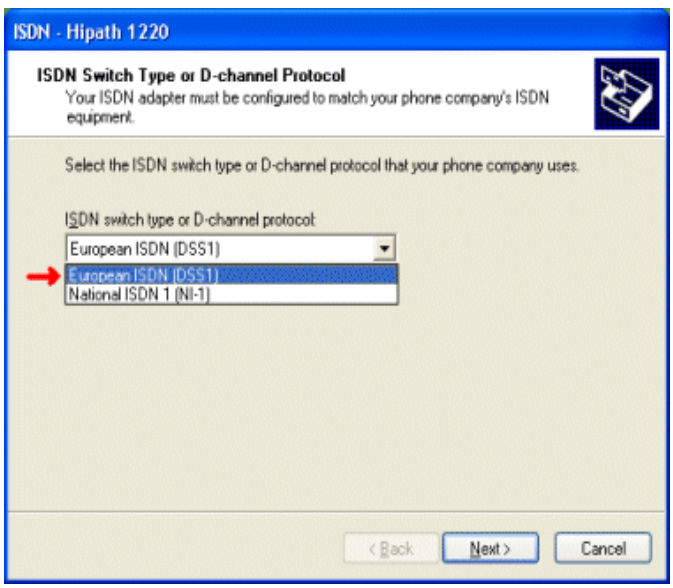


Figure 6-47 Windows XP - ISDN

6. Enter the MSN-CAPI number (see Table 7-2 on page 7-2) (valid extension range is X-Y) in "Add," in the Multi-subscriber Numbers" box.

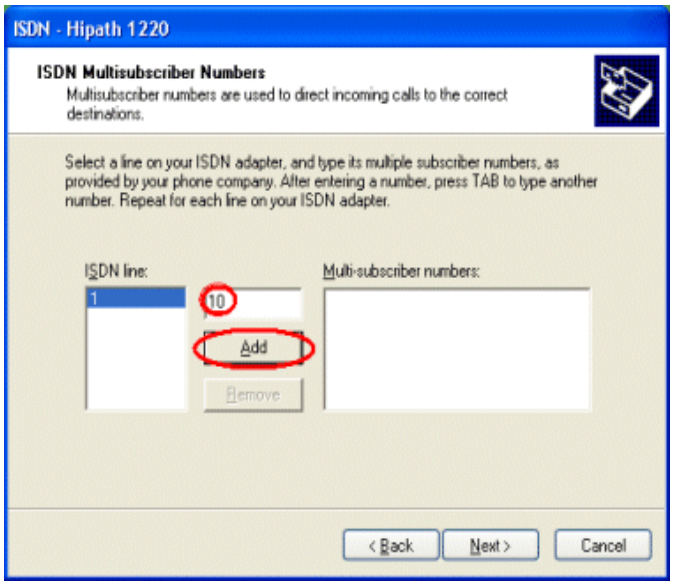


Figure 6-48 Windows XP - MSN

7. The installation of the USB drivers is confirmed. Click "Finish."
8. A message appears informing that HiPath 1000 is being searched. Repeat driver installation procedures for USB interface devices (Steps 1 to 3)
9. Click "Next" to proceed.
10. A message appears twice to the effect that the driver does not have a Windows logo. Click "Continue" every time this message appears.
11. The installation of the USB drivers is now completed. CAPI applications installation will now start automatically (see “CAPI Application Setup” on page 6-47).

6.3.2.3 CAPI Application Setup

CAPI application driver installation is very simple and is the same for all Windows operating systems.

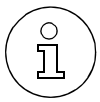
Upon conclusion of USB driver installation, the CAPI applications installation window will appear. Proceed as follows:

1. In this window select the language you want to use and click "OK" to confirm.
2. When the Welcome window appears, click "Next" to proceed. Next, the installation window will display the (default) path for installation of the CAPI applications (CallBridge for Data Utilities). You can choose a different path by selecting "Browse." Click "Next" to proceed.
3. In the next window, create a new program folder or choose an existing folder in which to store program icons for running the corresponding applications.

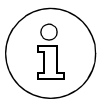
4. To complete the installation process answer the introductory messages by clicking "Next" Click "Finish" to close the installation window.

The following applications are then installed on your computer:

- ISDN Setup Wizard (Windows 98 SE/ME)
- CAPI Monitor
- Uninstaller
- FaxComm + Installation
- Loopback Test
- Outgoing Numbers Configuration (MSN) (Windows 2000/XP)



Restart the computer after installation of USB drivers and CAPI applications.



The USB drivers are Plug&Play compatible, so that after installation, the optiPoint system may be removed and added again to the computer configuration - by simply unplugging or connecting the USB cable. The drivers do not need to be reinstalled. The equipment is ready for operation.

6.3.2.4 Uninstall

- For the S_0 connection, follow steps 1, 6 and 7 of the procedure ;
- For the USB connection, follow steps 1 through 7 of the procedure below.

Procedure:

1. To exit CommServer right-click the CommServer icon on the Windows Status bar and select Finish.
2. Exit all online services for optiPoint CallBridge for Data;
3. Disconnect the computer USB cable from the optiPoint system;
4. To remove the USB drivers, proceed as follows:
   For FULL removal use Uninstall, or the Uninstall feature on the CD.
5. Uninstall CallBridge for Data Utilities (if previously installed to use online services or USB connections) by running the Uninstall program as follows: Start/Programs/CallBridge for Data Utilities/Uninstall CallBridge for Data Utilities. Once CallBridge for Data Utilities has been uninstalled, answer "No" when asked if you want to restart your computer, and proceed with step 6.

6. Uninstall all HiPath 1100 components as follows:
   Start/Settings/Control Panel/Software, then click on "Remove Software";
7. Next, restart your computer.

6.4 HiPath 1100 Applications

Aspects to Consider:

The HiPath 1100 Version 6.0 application installation overwrites HiPath 1100 Version 5.2 installation. During installation no message is displayed to warn the user that HiPath 1100 Version 5.2 applications are being removed

Both versions are supported; a HiPath 1100 HiPath Version 5.2 PABX can be managed using HiPath 1100 HiPath Version 6.0;

HiPath 1100 Version 5.2 and HiPath 1100 Version 6.0 cannot both be installed in the same computer. Otherwise, neither will work.

6.4.1 CTI Functionality

When the system is connected to a computer, system features can be executed from the PC. The functionality provided by the connection between a telephone system and a PC is known as CTI (Computer Telephony Integration).

For example, CTI functionality and other compatible MS-TAPI applications can be enabled by TAPI (Telephony Applications Programming Interface) drivers. TAPI drivers provide an interface between a Windows operating system and a TAPI-compatible telephone system. If a previous version TAPI driver (ESL or HiPath 1100) is already installed you will need to update it to the HiPath 1100 V6.0 TAPI driver.

TAPI only monitors physical ports. To operate correctly, a DISA feature must use special ports, and those cannot be monitored. If a physical port is used when the DISA feature is active, the TAPI will be able to monitor it.

If the system is connected to a PC running as a LAN server, all network clients will also have CTI capability available.

Comm Server:

This is an application that receives data from the system through a serial port and then distributes the data to different applications.

- Call detail recording packets
- TAPI packets
- Data administration packets with the administrative tool

CDR data are sent to the CDR application (Call Detail Report Manager) through TCP/IP sockets. CDR displays CDR information on the PC screen and stores it in text file format. It also makes CDR data available to a printer or a serial port, for example, for billing using the Call Report software.

Events for Call Detail Records received from the system are sent through TAPI messages to a TSP (TAPI Server Provider) using TCP/IP sockets, to provide data to other applications.

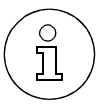
6.4.2 HiPath 1100 Manager

The HiPath 1100 Manager is an administration software designed for programming HiPath 1100 systems quickly and easily by means of a graphical interface without the need to know programming codes.

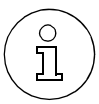
The HiPath 1100 Manager can access the switch as follows:

- Locally: Connecting a USB interface, an optiPoint 500 UP0/E interface, or a V.24 interface
- Remotely: Through a LAN, provided there is a network PC connected to the HiPath 1100 via a serial or USB interface or an ADSL module
- Offline Programming Mode: Allows you to view, edit and store a HiPath 1100 database on a PC that is not currently connected to the PABX and later transfer it to it.

You can also update the HiPath 1100 software using the Software Update then store the database with the system's settings.



If previous database versions have been saved (HiPath 1100 V5.1 and V5.2) and you want to update the database to HiPath 1100 V6.0, you only need to restore the *.bup file for the system to do the update automatically. Once the restore process is completed, a popup message appears informing the user of the changes resulting from the restore process.



When using remote administration over an ISDN digital line, where no traffic is detected between the system and the remote programmer, the system can be configured to terminate the connection after a specified period of time (1 to 60 minutes) or to maintain the connection indefinitely. The default timeout setting is 30 minutes.

Read the HiPath 1100 Manager Help file before proceeding with this operation.

6.4.3 HiPath 1100 ADSL Manager

The HiPath 1100 ADSL Manager is an administrative program for programming an ADSL module.

Hardware Requirements:

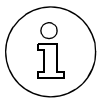
– 10/100 BaseT network interface card

General Information:

– TCP/IP protocol

– Default IP: 10.0.0.1;

– Default Subnet Mask: 255.255.255.0.



If you need to reset the IP address and the subnet mask, use code 013 "Restore ADSL module default settings. When the restore process is completed the ADSL module IP is 10.0.0.1.

When using an ADSL module, do not connect the V.24 serial interface adapter cable to the PABX

After activating ADSL access to your provider and connecting to the HiPath 1100, you must configure the appropriate settings for WAN and LAN connection. The HiPath 1100 ADSL Manager software application was designed for this purpose. It provides viewing, editing and updating capabilities for system configuration.

For more details on how to configure an ADSL module see the HiPath 1100 ADSL Manager “Help” system.

6.4.4 E1 Trunk Manager

The E1 Trunk Manager is an administrative program for configuring a TME1 module with E1 CAS access.

Hardware Requirements:

– Serial interface communications (COM port).

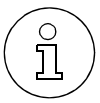
General Information:

Using the E1 Trunk Manager you can:

- Download software and databases
- Remove traces
- Select the software’s type of connection to the module (local or via modem)
- Select a COM port

- Select a Country when installing the program, including the appropriate protocol and CAS signaling (e.g., line signaling (1bit-E&M and 2bit-R2), and record signaling (DP, DTMF and MFCR2)).

For more details on how to configure a TME1 module with E1 CAS access refer to the program's "Help" system.



If the module does not initialize, check its status on the 7-segment display (see "TME1 Module" on page 3-33).

6.4.5 S2M Maintenance

The S2M Maintenance is an administrative program for configuring a TME1 module with S2 access.

Hardware Requirements:

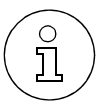
– Serial interface communications (COM port).

General Information:

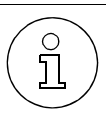
Using the S2M Maintenance you can:

- Download software
- Remove traces
- Select the software's type of connection to the module (local or via modem)
- Select a COM port

For more details on how to configure a TME1 module with S2 access refer to the program's "Help" system.



If the module does not initialize, check its status on the 7-segment display (see "TME1 Module" on page 3-33).



Availability of the HiPath 1100 Manager, HiPath 1100 ADSL Manager, E1 Trunk Manager and S2M MaintenanceAdministration software is subject to the client's completion of the technical course for users of the equipment.

6.4.6 Account Manager (CDR)

Billing Data Software

To launch the Account Manager select:

Start/Programs/HiPath 1100/Call Detail Recording

6.4.7 Status Monitor Indicator

Status Monitor Indicator on the computer.

To start a Status Monitor Indicator, select:

Start/Programs/HiPath 1100/StatusMonitor

6.4.8 MOH Transfer Wizard

MIDI Transmission Wizard for converting MIDI files to HiPath 1100 format and transferring to the system. This MIDI file will replace the internal music source

To start the MIDI Transmission Wizard select:

Start/Programs/HiPath 1100/MOH Transfer

6.4.9 Software Update

System software updates HiPath 1100 are made by Software Update application.

There are two ways to start the Software Update:

Click the Windows Start Menu to activate:

Start/Programs/Siemens HiPath 1100/Software Update.

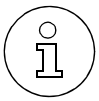
Access the HiPath 1100 Manager Menu Bar:

Tools/Software Update

This application provides step by step information on how to proceed in the software update. Use the "Next" button to go to the next step of the configuration procedure. Use the "Back" button to go back to the previous step in the procedure.

The software is updated in two steps:

1. Transfer data from the system software to the HiPath 1100. During this procedure the extensions operate as usual.
2. Load the system software into the memory. The telephones do not work during this period (approximately 3 minutes).



In the HiPath 1100 system Version 6.0 it is not possible to do a software update using Software Update Version 5.2; the hardware is not supported.

For more information refer to the HiPath 1100 Manager Help file.

6.4.10 CAPI Applications

CallBridge for Data Utilities. ISDN software for applications such as Internet access, sending and receiving group Fax 3/4, Euro File Transfer, telephone emulation, etc.

6.4.11 Interaction Center Smart (Optional Software)

This software application can be used with the HiPath 1150/1190/1190R systems. It provides monitoring and tracking capabilities for supervisors of one or more UCD Groups and up to 32 Agents. The application provides real time data with respect to agent status, incoming calls, queues, answered calls detailing statistics by group or agent, as well as other data to help manage a Call Center. With the Smart software you can determine the number of calls received, the number of calls lost, the time periods with a higher volume of calls, and other information.

The system helps you assess and improve your organization's service by providing information through an online tool or by generating reports to help reduce client loss while helping estimate the number of attendants needed. The
Interaction Center Smart solution consists of two tools:

Monitor - A tool that provides continuous tracking of services for real time management of agents, queued calls, group statistics including the number of calls answered, calls abandoned.

Analyst - A tool that provides supervisors with complete flexibility to perform statistical analysis by group or by agent, and for specific periods of time. Reports can be configured to show detailed information on the number of calls received, calls answered, calls abandoned, calls transferred, calls answered within or outside a profile set, ACD calls duration, total talk time, total queue time, and other data.

6.4.12 TAC Smart - Telephony Advanced Control (Optional Software)

This application can be used with the HiPath 1150/1190/1190R systems to help identify and display all information about a specific call. It delivers key telephony functions to the user's PC, including extension status monitoring, speed dialing capability, list of calls made and calls received, contacts, all the while making calls automatically to a preset list of numbers.

This software integrates with other systems to display pop-up screens and send data to existing applications.

6.4.13 CallReport (optional software)

CallReport is a billing system that allows you to record information about calls originated or received by your PABX system.

CallReport runs on a regular PC under a Windows 95 / 98 /NT 4.0 / 2000 / XP environment. It receives data sent by the PABX that are then processed and stored in a PC hard disk and identified by extension, time, call duration, trunk, outgoing route and call cost. Based on this data the software can generate reports including total costs per extension, sector, group, in addition to traffic reports for both outgoing and incoming calls.

All information is defined in the CallReport database and can be handled by any user logged in as Administrator.

6.4.14 VMIe Protocol (Voice Mail Interface - extended)

Voice Mail with analog connections require the VMIe protocol. Voice Mail communication takes place via DTMF signals that contain the following information:

1	Type of Call (TOC) Required item Fixed size: 4 characters Format: "***n" (n = code in table below)

Code	Type of Call	Code	Type of Call
1	Internal call to the Voice Mail System	2	Not used
3	Call Forwarding (*11)	4	Second Attendant (*14)
5	Not used	6	Not used
7	Not used	8	Not used

2	Calling Extension Required item Fixed size: 6 DTMF signals Format: “****I” (I = calling extension) External call format: always “******” **Note:** If the extension number is longer, the DTMF digit “*” in the protocol is replaced by the extension’s additional digit.
3	Extension called Required for all Type 3 and 4 calls The item remains empty for all other types of calls Fixed size: 6 DTMF signals Format: “****I” (I = extension called) **Note:** If the extension number is longer, the DTMF digit “*” in the protocol is replaced by the extension’s additional digit.
4	Additional information about the calling extension Optional item Fixed size: 2 DTMF signals Format: “*I” (I = code in table below)

Code	Information
1	The Calling Extension is a standard internal extension
2	Not used
3	The Calling Extension is an external caller on an analog line
4	The Calling Extension is an external user on a digital line

Examples:

1. Internal call from Extension 16 to the VMIe Group: ***1***16*1;
2. Direct internal call from Extension 15 to Extension 11, forwarded (*11) to the VMIe Group: ***3****15****11*1;
3. Direct internal call from Extension 11 to Extension 15, forwarded to the VMIe Group configured as second Attendant. ***4****11****15*1;
4. Incoming call over an external analog line to Extension 11, forwarded (*11) to the VMIe Group: ***3**********11*3;
5. Incoming call over an external digital line to Extension 11, forwarded (*11) to the VMIe Group: ***3**********11*4;
6. Incoming call over an external analog line to Extension 12, forwarded to the VMIe Group configured as second Attendant. ***4**********12*3;

7. Incoming call over an external digital line to Extension 12, forwarded to the VMIe Group configured as second Attendant. ***4**********12*4;
8. Direct internal call from Extension 1015 to Extension 1011, forwarded (*11) to the VMIe Group: ***3**1015**1011*1;
9. Direct internal call from Extension 10015 to Extension 10011, forwarded to the VMIe Group configured as second Attendant. ***4*10015*10011*1.

Voice Mail protocol for the system:

The Voice Mail signals to indicate when there is a message waiting at an extension's mailbox. This is done via a DTMF service code (*68) followed by the extension number. When a message is erased, a different DTMF code (#68) is used to deactivate the signal at the extension that belongs to the VMIe Group. In the event these codes are not supported by the Voice Mail System they can be re-programmed. Please check items " Deactivating the Internal MWI #68" and "Activating the Internal MWI Internal *68" in the HiPath 1100 Manager "System Settings - Service Code" folder.

Example:

1. The Voice Mail System indicates that Extension 13 has a message waiting in mailbox : *6813;
2. The Voice Mail System indicates that the mailbox for Extension 12 is empty: #6812.

7 Configuring the system specifically for the client

Procedure Summary

Step	System Telephone/Standard MF Telephone	HiPath 1100 Manager
1.	System programming can only be executed using the system's first extension slot (analog extension (MF) or system telephone).	Connect the PC to the system.
2.	Programming Mode: *95 + PASSWORD (default: 31994).	Configure CommServer.
3.	Valid parameter or slot: *beep (Brazil).*	Start the program.
4.	When an incorrect setting is entered: *3 beeps (Brazil).*	System data are automatically imported.
5.	When completed: 1 *beep (Brazil).*	Start programming.
6.	End programming: press "#" key or replace handset.	Export the new configuration settings.

Table 7-1 Configuration procedure summary

7.1 Table of the System's Programming Codes

The Numbering Plan is configured based on the modules detected by the system.

- For the HiPath 1120:

Motherboard

S_0 Module;

Analog Modules

- For the HiPath 1150:

TME1 Module;

Motherboard

S0 Module

Analog Modules

- For the HiPath 1190:

Analog Modules

TME1 Module;

S0 Module

Numbering Plan

Description	HiPath 1120	HiPath 1150	HiPath 1190
External Line	801 to 806	801 to 822	801 to 845
Extension, including S_0	11 to 30	11 to 60 610 to 645	101 to 240
Group of external lines	0 or 890 to 899		
Call Group (CG)	770 to 779		
Hunt Group (HG)	780 to 789		
CD Subscriber Group	790 to 799		
Carrier	9		
EVM - Default internal number	790		
EVM - Message Ports	7491 and 7492		
EVM - Virtual Ports	744 to 747		
Fax/DID - Virtual Message Ports	740 to 743	740 to 747	
MSN-CAPI Line	10		100

Table 7-2 Numbering Plan

Programming Tables

Table	Explanation	
1.	Important settings	pág. 7-4
2.	External line settings	pág. 7-6
3.	Programming an Extension	pág. 7-10
4.	DISA	pág. 7-12
5.	General settings	pág. 7-14
6.	Updating the Software	pág. 7-15
7.	Remote Administration	pág. 7-16
8.	Entrance Telephone	pág. 7-16
9.	Call Detail Recording	pág. 7-17
10.	Digital trunk settings	pág. 7-24

Table	Explanation	
11.	ADSL Module	pág. 7-25
12.	Relay and sensor on the HiPath 1120	pág. 7-26

Table 7-3 Classification of programming tables

For information on the programming of each feature see "Comments about the System's Programming Codes" on page 7-27

Important settings

Programmed Functions	Code	Intermediate Data	Data to Program	Completing Data Entry	Default
Default Access to a Group of External Lines	002	Extension	Group of external lines	# instead of extension	0
Special Class of Service for a Blocked Extension	096	Extension	COS - 0 (No Permission) COS-1 (Denied List 1) COS-2 (Denied List 2) COS-3 (Denied List 3) COS-4 (Permission List 1) COS-5 (Permission List 2) COS-6 (Permission List 3) COS-7 (Default for all lines)	# instead of extension	0
COS assignment	111	Group of external lines **Day COS:** class - 0 (No Permission) Class - 1 (Denied List 1) Class - 2 (Denied List 2) Class - 3 (Denied List 3) Class - 4 (Permission List 1) Class - 5 (Permission List 2) Class - 6 (Permission List 3) Class - 7 (default for all lines) **Night Service COS:** Class - 1 (Denied List 1) Class - 2 (Denied List 2) Class - 3 (Denied List 3) Class - 4 (Permission List 1) Class - 5 (Permission List 2) Class - 6 (Permission List 3) Class - 7 (Default for all lines)	Extension	# instead of extension	Class - 77 for all extensions. Note: Class - 7 Day Class - 7 Night
Phonebook/Speed Dial	112	Phonebook entry: 000 to 249*	Number (up to 20 digits)	5-second time-out	All entries are blank
Dialing Mode on an External Analog Line	119	External analog line	1 - Analog line: Pulse (DP) 2 - Analog line: Multifrequency (MF)	# instead of external line	2 - MF

Programmed Functions	Code	Intermediate Data	Data to Program	Completing Data Entry	Default
Denied List	123	Class of Service: 1, 2 or 3 **+** List 1 - COS 1 - Slots 01 to 04 List 2 - COS 2 - Slots 01 to 10 List 3 - COS 3 - Slots 01 to 35	Number (up to 16 digits)	5-second time-out	See Tabela 7-7 na página 7-11
Permission List	124	Class of Service: 4, 5 or 6 **+** List 1- COS 4 - Slots 01 to 04 List 2 - COS 5 - Slots 01 to 10 List 3 - COS 6 - Slots 01 to 25	Number (up to 16 digits)	5-second time-out	
Analog Line Attendants	142	External Line **+** 1 - Day Service 2 - Night Service 3 - Day Service after a specified time period 4 - Night Service after a specified time	Up to 10 extensions or call groups or ***** - To delete	# instead of extension	None
Attendant Console	150		extension or ***** - To delete	# instead of extension	None
Permission for using Speed Dial numbers without COS analysis	072		***** - To enable # - To disable	Automatic	# - To disable
Language	164		0 - Custom 1 - Portuguese 2 - Spanish 3 - English 4 - French 5 - Italian 6 - Turkish	Automatic	3
Country/Group of Countries	165		See Tabela 7-15 na página 7-19	Automatic	01 - Brazil
COS Changeover	178	Extension	***** - To enable # - To disable	# instead of extension	# - disabled
Carrier Dialing Mode Field: LCR or ACS**	225		***** - ACS # - LCR	Automatic	# - LCR
Warning Tone for Calls without LCR	092		***** - To activate # - To deactivate	Automatic	# - To deactivate

* To dial an external number enter the external line number instead of the external access code "0."
** Settings must be configured on the HiPath 1100 Manager.

Table 7-4 Important settings

External line settings

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Groups of external lines	156	Group of external lines	External Line	# instead of group	0
Seizure priority by type of external line	194		1 - Standalone 2 - Digital 3 - Analog	Automatic	1 - Standal-one
External analog line seizure protocol	017	External analog line	1 - Loop seizure 2 - Ground seizure	# instead of external line	2 - Canada 1 - Other countries
Caller ID for Analog Lines	005	External analog line	0 - Disabled 1 - DTMF1 2 - DTMF2 (off hook) 3 - FSK	# instead of external line	1 - Brazil, China, Peru, India, IM-Spain and IM-English 2 - Russia 3 - Other countries
External Line Call Direction	155	External Line	1 - Bidirectional 2 - Incoming unidirectional 3 - Outgoing unidirectional	# instead of external line	1 - Bidirec-tional
Flash Duration on an Analog Line	118	External analog line	05 to 99 05 - 50 ms 99 - 990 ms	# instead of external line	Country*
Reseizure time for external line	129		05 to 99 05 - 500ms 99 - 9900ms	Automatic	05
Maximum time between rings for an incoming call	117		05 to 20 seconds	Automatic	13 seconds for Argen-tina, 06 seconds for all other countries
Coefficient for an external analog line	147	External analog line	1 - Standard line, 900 Ω 2 - 600 Ω line 3 - Short line 4 - Long line	# instead of external line	1 - Standard line
Polarity Inversion**	158	External analog line	* - Yes # - No	# instead of external line	# - No
Dial tone detection	160	External analog line	* - Yes # - No	# instead of external line	* - Yes
External line connection.	133	Group of external lines	1 - Direct 2 - Satellite PABX	# instead of external line	1 - Direct
Second external access code	134		0 to 9 or 00 to 99 or none (no code)	5-second timeout	0

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Auto-Seizure Mode for an External Line	036	Extension	* - Yes # - No	Automatic	# - No
False tone	063		* - Yes # - No	Automatic	# - No: Argentina and India * - Yes: all other countries
Internal Access Code for Automatic Seizure	226		(00000 to 99999)	Automatic	It varies depending on the country
External analog present	079	External Line	* - Yes # - No	# instead of external line	* - Yes
Waiting time for a Second Attendant to answer a call on an external analog line	083	External Line	(01 to 20) in 5-second cycles	Automatic	06 (30 s)
Overflow for a Group of External Lines	099	0 or 890 a 899 (Group of External Lines) + 1 - For a specific group of external lines 2 - For all groups of external lines 3 - None	0 or 890 to 899 (only for case # 1)	# instead of group	1 - First group 2 - All 3 - None

* 24/10 for Brazil, Chile, Venezuela, Mexico, Vietnam, IM, China, Pakistan and the Ukraine
35/10 for Argentina 30/08 for Thailand, Malaysia and Singapore 18/10 for Portugal
9/9 for Spain 30/9 for India
27/9 for Greece.
8/8 for Russia
** Ask local carrier about availability.

Table 7-5 External line settings

Programming an Extension

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Pickup Groups	143	Pickup groups 01 to 16	extension or * - To delete a group	# instead of extension	None
Call Groups (CG)	113	Call Group (CG)	extension (up to 10) * - To delete	# instead of extension	Extensions 11/101 to 20/110
Call Forwarding within a Call Group (CG)	222		* - To enable # - To disable	Automatic	# - To disable

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Alert Ring Timeout for Pickup Groups	035		Time: 00 to 59 seconds or * - To disable	Automatic	* - To disable
Callback/Urgent Call Activation after Timeout	037		* - Enables Recall and disables Urgent Call # - Disables Recall and enables Urgent Call	Automatic	# - To disable
Caller ID by name or number	039		1 - Name and Number 2 - Name 3 - Number	Automatic	1 - Name and Number
UCD Subscriber Groups	023	UCD Subscriber Group	Extension (up to 32 agents) * - To delete	# instead of group	None
Collect Call Barring for a UCD Subscriber Group	007	UCD Subscriber Group	* - To enable # - To disable	# instead of group	# - (To disable)
Message Waiting for UCD queue	024	UCD Subscriber Group	extension or * - MOH (Music on Hold)	# instead of group	* - MOH
UCD Queue size	025	UCD Subscriber Group	00 to 99 slots	# instead of group	99 slots
Time for Message Waiting connection to UCD Queue	026	UCD Subscriber Group	(00 to 99) in 5-second cycles	# instead of group	0
UCD overflow call destination	027	UCD Subscriber Group	Extension or UCD Group or * - To delete	# instead of group	None
Round-robin distribution to agents	028	UCD Subscriber Group	* - To enable # - To disable	# instead of group	* - To enable
Time for Agent's Notes	029	UCD Subscriber Group	(00 to 99) in 5-second cycles	# instead of group	00 (0 seconds)
Ring Signal Time at an Agent	030	UCD Subscriber Group	(01 to 99) in 5-second cycles	# instead of group	06 (30 seconds)
Time in UCD Queue	031	UCD Subscriber Group	(00 to 99) in 5-second cycles	# instead of group	12 (1 minute)
On Hold Message before Signaling UCD Call	032	UCD Subscriber Group	* - To enable # - To disable	# instead of group	# - To disable
Minimum Time for UCD Queue On Hold Message	033	UCD Subscriber Group	(00 to 99) in 5-second cycles	# instead of group	00 (0 seconds)
Hunt Groups (HG)	021	Hunt Group (HG)	extension or * - To delete	# instead of group	None
Call Forwarding within a Hunt Group (HG)	223		* - To enable # - To disable	Automatic	# - To disable
Hunt Group Selection (HG)	022	Hunt Group (HG)	1 - Linear 2 - Round-robin	# instead of group	1- Linear

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Override	144	Extension	0 - Without permission 1 - With permission and beep	# instead of extension	0
Silent Monitoring	046	Extension	* - To enable # - To disable	# instead of extension	# - To disable
Caller ID for analog extension (CLIP)	010	Analog extension	0 - No Caller ID 1 - DTMF before ringing 2 - DTMF during ringing 3 - FSK before ringing 4 - FSK during ringing 5 = FSK prior to ringing or during a conversation 6 = FSK during ringing or a conversation	# instead of extension	0
Electronic Lock Password Reset	126	Extension		Automatic	00000
Timeout when there is no answer	130		(01 to 99) in 5-second cycles	Automatic	06 (30 seconds)
Dialing Mode	168	Extension	Detection: 0 - Automatic 1 - Pulse (DP) 2 - Tone (DTMF)	# instead of extension	0 - Automatic
Flash Detection Time	131	Extension	000 to 254 (in 10 ms cycles)	# instead of extension	035 - For all extensions (Portugal, Argentina and Thailand) 028 - Other
Overflow Extension/Escape Extension*	132	1 - No answer 2 - Busy 3 - Wrong number	Extension	Automatic	Extension 11/101
Hotline	145	Extension (except 11/101)	Phonebook entry 000 to 249 or * - without Hotline	# instead of extension	* - Without Hotline
Warmline	162	Extension (except 11/101)	0 to 9 seconds	# instead of extension	0 seconds
Assigned Group	151	Executive extension (up to 8)	Extensions assigned (up to 15) or * - To delete	# instead of extension	None
CD Interface Assignment (for System Telephones)	146	Interface: HiPath 1120: 01 to 04 HiPath 1150: 01 to 08 HiPath 1190: 01 to 24 or * - To delete	Extension	# instead of extension	HiPath 1120/1150: 1ª - 11, 2nd - 12, etc HiPath 1190: 1ª - 101

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Extension Coefficient	148	Analog extension	Line Type (Brazil): 1 - 900 ohms 2 - 600 ohms 3 - 900 ohms 4 - 600 ohms	# instead of extension	1 - Default extension
Activating External Message Waiting Indicator	014		* - To enable # - To disable	Automatic	# - To disable
External MWI Group	015		extensionor * - To delete	# instead of extension	None
Message Waiting server number	065		MSN number (up to 20 digits)	# instead of number	None
Collect Call Barring by extension	193	Extension	* - To enable # - To disable	# instead of extension	# - To disable
Type of equipment connected to the extension	003	Extension	0 - Normal 1 - Fax 2 - DID 3 - Music Module	# instead of extension	0 - Normal
Auto-Answering Mode	034	Extension	* - To enable # - To disable	# instead of extension	# - To disable
Billing alert for analog extension	041	Analog extension	* - To enable # - To disable	# instead of extension	# - To disable
Timer for outgoing external calls	047	Extension	Call duration: 00000 to 17280 in 5-second cycles	# instead of extension	36
Activate/Deactivate timer for outgoing external calls	048	Extension	* - To enable # - To disable	Automatic	# - To disable
Timeout for a Second Attendant to answer a call for MSN	082	Index: 001 to 140	(01 to 20) in 5-second cycles	Automatic	06 (30 seconds)
Modem extension	085	Extension		Automatic	None
MSN Extension Assignment for Outgoing External Calls	086	Extension + 1 - Day 2 - Night	Index: 001 to 140	Automatic	None
External-to-External Transfer	091	Extension	* - To activate # - To deactivate	# instead of extension	# - To deactivate
Transfer when Extension is Busy	217		* - To activate # - To deactivate	Automatic	* - To activate

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Elapsed timeout for external-to-external connection	218		* - To activate # - To deactivate	Automatic	# - To deactivate
Configuring a Timeout for an External-to-External Connection	219		0000 to 1440 (in 1-minute increments)	Automatic	1 hour
Conditional Forwarding is limited for each extension	097		Numbers from 01 to 50	Automatic	5 numbers
Permission for Conditional Call Forwarding.	098	Extension	* - To enable # - To disable	# instead of extension	# - To disable

* The overflow extension can be accessed through the specified internal number and cannot be used or programmed as a Fax extension.

Table 7-6 Programming an Extension

Country	Permission List		Denied List
Brazil	190 0800	193 0810	0900 900
Argentina			
Portugal	112		64
Chile	800		
Venezuela			
Mexico			
Vietnam			
IM Spanish	190		
IM English			
IM French			
China			
Malaysia			
Singapore	999 995	1800 1608	#571#

Country	Permission List		Denied List
Thailand	01 2 3 4 5 6 7 8 9	11 12 13 14 15 16 17 18 19	001 100 101
Greece	100 166	199 0800	090
India			
Pakistan			
Spain	091 112	1003 900	903 905 906
Russia	01 02	03 04	05 07 09 00
Ukraine			
Peru			
Philippines			
Canada			
South Africa			
Turkey			0900
Latvia	01 02 03	04 112	0900
Lithuania	01 02	03 112	0900
Italy	112 113	115 118	0900
Australia	000		0900
United Kingdom	000		0900

Table 7-7 Default settings for EWACO

DISA

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
DISA Permission	018	Extension	* - To enable # - To disable	# instead of extension	# - To deactivate

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
MSN DISA	019		MSN number (up to 20 digits)	# instead of the digit or Automatic	None
DISA external line	020	External analog line	1 - Never 2 - Night only 3 - Day only 4 - Always	# instead of external line	1 - Never

Table 7-8 DISA

General settings

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Music on Hold	136		0 - No music 1 - Internal - MIDI 2 - Internal - Wave 3 - External 4 - External - Extension	Automatic	1 - Internal - MIDI
Assigning Extensions to MOH Groups	087	1 or 2 - MOH Group	extension or * - To delete	# instead of extension	None
Music source for the MOH Group	088	1 or 2 - MOH Group	0 - No music 1 - Internal - MIDI 2 - Internal - Wave 3 - External 4 - External - Extension	# instead of group	0 - No music
Music Source Extension	089	1 or 2 - MOH Group	Extension or * - To delete	# instead of group	None
External Music Source - Extension Assignment	064	extension or * - To delete		Automatic	None
Setting the time for an external Room Monitor	169		Connection time: 01 to 99 seconds	Automatic	10 seconds
Interdigit Pause Time Setting	227		1 to 5 seconds	Automatic	2 seconds
Types of caller lists	049		1 - External 2 - Internal and external	Automatic	2 - Internal and external
Deleting digits from the Caller List	171		Initial sequence of digits (up to 6 digits)	5-second timeout	None

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Date/Time - Manual setting	114		DD - Day, from 1 to 31 MM - Month, from 1 to 12 YY - Year, from 00 to 99 HH - Hour, from 00 to 23 MIMI - Minutes, from 00 to 59	Automatic	
Automatic Update of Date/Time	038		* - To enable # - To disable	Automatic	* - To enable
Callback for external calls via ISDN	221		* - To enable # - To disable	Automatic	* - To enable
Call Charge Unit	195		Value: 000000000 to 999999999 + Comma position: 0 to 3	Automatic	factor - 00001 slot - 0
Multiple for Call Charge Factor	042	1 - Factor 1 2 - Factor 2	Pulse multiplier: 000 to 254	Automatic	001 - Value 1
Call Charge Factor for extensions	043	Extension	1 - None 2 - Factor 1 3 - Factor 2	# instead of extension	1 - None
Call Charge Value by Extension	197	Extension	Value: 000000000 to 999999999 + Comma position: 0 to 3	Automatic	factor - 00001 slot - 0
Call Cost Limit by Extension	044	Extension	* - To enable # - To disable	Automatic	# - To disable
Date for Updating the Call Cost Limit for an Extension	045		dd (day, from 01 to 31) or * - To disable	Automatic	* - To disable
Setting a System Password	180		New password (5 digits)	Confirm new password	Password - 31994
Night Service Password	149		00000 to 99999	Automatic	Password - 31994
Restoring Default Settings	199	System password (default: 31994)		Automatic	
Regular Timers	139	**01 to 35: Timer code	New setting: 0 to 65535	#	Factory default
System Timers	140	**1 to 34: Table entry	New setting: 0 to 255	#	
Emergency Numbers	040	Slot: 1 to 5	Number (up to 10 digits)	5-second timeout	See Tabela 7-10 na página 7-14
Module Detection	061	00 - Detect all modules or 01 to 20		# instead of slot position	00

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Type of MSN Signal	073	Slot: 001 to 140	Type of signal: 1 to 4	Automatic	1
Reference Clock	090	position or 00 + * - Erases (switches to Auto mode)	Physical Interface: 1 to 5	Automatic	Automatic Mode
Assigning a Temporary MSN	093		Input data type: 1 - MSN Number 2 - MSN Number slot	Automatic	None
MSN Identification Mode	224		Identification Mode 1 - None 2 - MSN Name 3 - MSN Number	Automatic	None
Remote Administration Password through an MSN	220		a password of up to 5 digits, from 00000 to 99999	Automatic	None

**〉 For more details on how to set timers refer to the Help file of the HiPath 1100 Manager administrative software. See the sections on timers specifically.

Table 7-9 General settings

Country	Emergency Numbers	Name
Brazil	190 193	Police Fire Department
Portugal	112	Emergency
Spain	112	Emergency
Latvia	01 02 03 04 112	
Lithuania	01 02 03 112	
Italy	112 113 115 118	
Australia	000	Emergency
England	999 112	Emergency Services
Portugal	112	Emergency

Table 7-10 Lists of Emergency Numbers (040)

Updating the Software

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
SW Information	001	* - Displays the type of system, software release, version number, APS, and serial number.		Any key to finalize entry.	
Local SW Update	060			Automatic	
Activating a SW Update	055		* - To enable # - To disable	Automatic	# - To disable
Day for SW Update	054		dd (day, from 01 to 31) or	Automatic	01
Time for SW Update	058		hh:mm (hh from 00 to 23 and mm from 00 to 59)	Automatic	00:00
External Number for Updating the Software	056		Number (up to 20 digits)	# instead of the digit or Automatic	None
Frequency for SW Update	057		Month (01 to 12)	Automatic	01
Uploading the SW Update	059		hh:mm (hh from 00 to 23 and mm from 00 to 59)	Automatic	00:00

Table 7-11 Updating the Software

Remote Administration

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Service Call	*994	Number of Service Center	# - To confirm	Automatic	
Remote Software Update	*9415			Automatic	
Remote Operation Mode	084		1 - Via ISDN 2 - Via Modem	Automatic	1 - Via ISDN
Remote Administration Activation	066		* - To enable # - To disable	Automatic	# - To disable
External Number Configuration	067	Slot: 1 to 4	Number (up to 20 digits)	# instead of slot position	None
Remote Administration Password	068	Slot: 1 to 4	00000 to 99999	# instead of slot position	None
Remote MSN	069		Slot: 001 to 140 or * - To delete	Automatic	None

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Without MSN Verification	070		* - To enable # - To disable	Automatic	# - To disable
Remote Administration via DTMF	157		* - To enable # - To disable	Automatic	* - To enable
Ending Remote Administration	196			Automatic	

Table 7-12 Remote Administration

Entrance Telephone

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Configuring an Entrance Telephone	115	Slot: 1 to 4	Extension or * - To delete	# instead of slot position	# - No
Door Lock	116	Slot: 1 to 4	* - To enable # - To disable	# instead of slot position	# - To disable
DIDs for Entrance Telephones	159	Slot: 1 to 4	Extension (up to 10) + * or * - To delete	# instead of extension	Extension 11/101
Permission for Opening Door	125	Slot: 1 to 4	Extension + * or * - To delete	# instead of extension	All extensions

Table 7-13 Entrance Telephone

Call Detail Recording

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Ticket Cost Code Ticket	095		* - To enable # - To disable	Automatic	# - To disable
Data Transmission Rate	120		1 - 9600b 2 - 14400b 3 - 19200b 4 - 38400b 5 - 56000b 6 - 57600b 7 - 115200b 8 - 128000b 9 - 256000b	Automatic	3
25-digit Suppression in CDR records	121		0 to 9 (suppress digits)	Automatic	0

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Call Detail Report for Incoming Calls*	161		1 - Incoming/Outgoing calls 2 - Outgoing calls 3 - Incoming/Outgoing calls + CLIP 4 - Outgoing calls + CLIP	Automatic	1 - Incoming/ Outgoing
Call Detail Report Filter	167		Sequence consisting of the first 25 digits of the number to be billed (up to 4 digits)	5 seconds time-out	None
Call Detail Report with a Serial Interface	006		* - To enable # - To disable	Automatic	# - To disable

* If the system is enabled for Caller ID over digital or analog lines by the local carrier.

Table 7-14 Call Detail Recording

Code	Group	Country	Display Language
01	Brazil (default)	Brazil Bolivia Paraguay*	Portuguese Spanish Spanish
02	Argentina	Argentina	Spanish
03	Portugal	Portugal	Portuguese
04	Chile	Chile	Spanish
05	Venezuela	Venezuela	Spanish
06	Mexico	Mexico	Spanish
07	Vietnam	Vietnam	English
08	IM Spanish	Colombia Uruguay Ecuador Central America Indonesia**	Spanish English
09	IM English	Saudi Arabia Bahrain Egypt United Arab Emirates Ghana Yemen	English

Code	Group	Country	Display Language
09	IM English	Iran Jordan Kuwait Libya Nigeria Oman Kenya Zimbabwe Syria Sudan Tanzania Serbia/ Montenegro	English
10	IM French	Algeria Cameroon Ivory Coast Lebanon Morocco Senegal Tunisia	French
11	China	China	English
12	Malaysia	Malaysia	English
13	Singapore	Singapore	English
14	Thailand	Thailand	English
15	Greece	Greece	English
16	India	India	English
17	Pakistan	Pakistan	English
18	Spain	Spain	Spanish
19	Russia	Russia Belarus	English
20	Ukraine	Ukraine	English
21	Peru	Peru	Spanish
22	China2	China2	English
23	Philippines	Philippines	English
24	Canada	Canada	English
25	South Africa	South Africa	English
26	Turkey	Turkey	English
27	Latvia	Latvia	English
28	Lithuania	Lithuania	English
29	Italy	Italy	English
30	Australia	Australia	English
31	United Kingdom	United Kingdom	English

* For Bolivia and Paraguay, set "01=Brazil" for country/groups of countries then "02=Spanish" for language.
** For Indonesia set "08=Intern. Spanish" for country/group of countries. then "03=English" for language.

Table 7-15 Country/Group of Countries (65)

Country	Protocol	Code
Brazil (01)	DTMF1	1
IM-Spain (08), IM-English (09), India (16) and Peru (21)	DTMF2	2
Other countries	FSK	3

Table 7-16 Analog CLIP Protocol (005)

Fax/DID Feature

FunctionFunc-tions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Answering Menu	009	Select forwarding digit: 0 to 9 or *	Enter the Extension or Call Group number to be assigned to the digit	# instead of the forwarding digit	None
Message Recording	137	9 - Record 0 - Play + Type of message: 01 to 12	Type of message: Fax Mode: 01 - Greeting for business hours (24 s) 02 - Greeting for Night Service (24 s) 03 - Transfer (16 s) DID Mode: 04 - Greeting for business hours (32 s) 05 - Greeting for Night Service (32 s) 06 - Transfer (16 s) Fax/DID Mode: 07 - Greeting for business hours (32 s) 08 - Greeting for Night Service (32 s) 09 - Call Forwarding (16 s) 10 - Identification message (16 s) 11 - Alarm (8 s) 12 - Reservation	#	

FunctionFunc-tions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Call Answering Mode Configura-tion	127	External Line	0 - Module disabled 1 - Fax 2 - DID 3 - Fax/DID 4 - Message 5 - Autofax	# instead of the number of the free line	0
Fax Reception Extension	128	External Line	Extension or * - To delete	# instead of external line	None
Collect Call Barring	008	1 - Fax 2 - DID 3 - Fax/DID 4 - Message (greeting)	* - To enable # - To disable	# instead of mode	# - To disable
MSN Answering for Fax/DID	080	Slot: 001 to 140	0 - Deactivated 1 - Fax 2 - DID 3 - Fax/DID 4 - Message 5 - Autofax	# instead of slot position	00 - Deacti-vated
Fax Extension for MSN	081	Slot: 001 to 140	Extension	# instead of slot position	None
Fax/DID Release after a Timeout	094		(00 to 99) in 5-second cycles	Automatic	06 (30 seconds)

Table 7-17 Fax/DID Feature

EVM Module

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Duration of Greet-ing Messages	200		(01 to 05 min) - Time for leaving a message	Automatic	2 minutes

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Mailbox Language	201		01 - German 02 - English 03 - French 04 - Dutch 05 - Italian 06 - Portuguese 07 - Spanish 08 - Czech 09 - Slovenian 10 - Polish 11 - Rumanian 12 - Greek 13 - Estonian 14 - Latvian 15 - Lithuanian 16 - Finnish 17 - Danish 18 - Swedish 19 - Norwegian 20 - English (US) 21 - Spanish (INT) 22 - French (Canada) 23 - Korean 24 - Flemish (Belgium) 25 - Portuguese (Brazil) 26 - Chinese 27 - Turkish	Automatic	03 - IM French 06 - Portugal and Brazil 07 - Spain, Argentina and IM Spanish 12 - Greece 02 - Other countries
Maximum number of auto-configurable mailboxes	202		(01 to 24) - Number of mailboxes.	Automatic	12 boxes
Mailboxes Assignments	203	Number: 01 to 24	Extension or EVM virtual port (744 to 747)	# instead of a mailbox	None
Mailbox Password	204	Number: 01 to 24	Password, up to 4 digits	# instead of a mailbox	1234
Mailbox Recording Activation	205		* - To enable # - To disable	# instead of a mailbox	# - To disable
Type of Mailbox Greeting	206	Number: 01 to 24	1 - Manual or 2 - Day/Night	# instead of a mailbox	1 - Manual
Configuring a Greeting for a Mailbox	207	Number: 01 to 24	1 - Greeting 1 (Day Service) or 2 - Greeting 2 (Night Service)	# instead of a mailbox	1 - Greeting 1 (Day Service)
Message source	208	1 - Message 1 or 2 - Message 2	Port: 7491 or 7492	# instead of a mailbox	None
Message Mode	209	1 - Message 1 or 2 - Message 2	1 - Continuous or 2 - Single	# instead of a mailbox	1 - Continuous

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Optional message for MSN	210	Slot: 001 to 140	1 - Message 1 or 2 - Message 2	# instead of a mailbox	None
System number	211		Number up to 10 digits	5-second timeout	None
Type of system number	212		1 - Unknown 2 - System Number 3 - Local Area Code (LAC) 4 - Country Code	Automatic	3 - Italy 1 - Other countries
Sensor message (HiPath 1120)	213		1 - Message 1 or 2 - Message 2	Automatic	None
Type of Voice Mail	214		1 - None 2 - VMI 3 - EVM	Automatic	1
Voice Mail Group	215		UCD Group or * to delete	Automatic	None
Mailbox Assignment for Auto-Answering Mode	216	Mailbox 1 or 2	Greeting message port: 7491 or 7492	# instead of a mailbox	None
Audio Quality	228		1 - Best - for greetings and messages 2 - High quality for greetings/Best for messages 3 - High quality for greetings and messages	Automatic	2 - High quality for greetings/Best for messages
Message/Greeting for an External Analog Line	230	External analog line	1 - Message 1 or 2 - Message 2	# instead of trunk	None

Table 7-18 EVM Module

Digital trunk settings

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
S_0 Ports	062	Position/Slot: HiPath 1120: 02 HiPath 1150: 03 HiPath 1190: 01 and 11	1 - External line and extension 2 - External line 3 - Extension	# instead of slot position	1 - External line and extension
$S_{0\ Line}$ Operation Mode	190	01, 02, 03 or 11 + 00 to 01 (HiPath 1120 - 00 only PP or PMP) 00 to 04 (HiPath 1150) 00 to 04 (HiPath 1190)	1 - Point-to-point connection (PP) 2 - Point-to-Multipoint connection (PMP) 3 - S_0 Bus line	# instead of slot position	1 - First port 3 - All other ports
Symmetric/Asymmetric Call	074	01, 02, 03 or 11 + 00 to 01 (HiPath 1120 - 00 only PP or PMP) 00 to 04 (HiPath 1150) 00 to 04 (HiPath 1190)	* - Asymmetric # - Symmetric	Automatic	# - Symmetric
No ACK Setup for $S_{0\ Line}$	075	01, 02, 03 or 11 + 00 to 01 (HiPath 1120 - 00 only PP or PMP) 00 to 04 (HiPath 1150) 00 to 04 (HiPath 1190)	* - To enable # - To disable	Automatic	It varies depending on the country
Notify	076	01, 02, 03 or 11 + 00 to 01 (HiPath 1120 - 00 only PP or PMP) 00 to 04 (HiPath 1150) 00 to 04 (HiPath 1190)	* - To enable # - To disable	Automatic	It varies depending on the country
Automatic Keypad	077		* - To enable # - To disable	Automatic	# - To disable
Assigning a Digital Line to a MSN	078	Slot: 001 to 140	external line or * - To delete	# instead of slot position	All assigned lines
External line prefix	189	1 - National 2 - International	Line prefix (up to 5 digits)	# instead of the digit or Automatic	None
External Number Registration	191	Slot: 001 to 140	DID final digits (up to 20 digits)	# instead of slot position	None
Assigning MSNs to Attendants	192	Slot: 001 to 140 + 1- Day Service 2- Night Service 3 - Second Attendant - Day 4 - Second Attendant - Night	Extension, Call Group (CG, HG or UCD with up to 10 extensions per group) or EVM Virtual Port (744-747, for Second Attendants only). * - To delete	# instead of extension	None

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Busy Signal**	004	Slot: 001 to 140 **+** 1 - Day 2 - Night	Busy Signaling Group: 001 to 140	# instead of the code	None
Local area code filter	011		Enter the local area code (up to 10 digits)	# instead of the code	None
Country code filter	012	See Tabela 7-20 na página 7-25	Enter the country code (up to 10 digits)	# instead of the code	55 - Brazil
Call Deflection	229		* - To enable # - To disable	Automatic	# - To disable
ISDN Layer 1	101	01, 02, 03 or 11 + 00 to 01 (HiPath 1120 - 00 only PP or PMP or PMP) 00 to 04 (HiPath 1150) 00 to 04 (HiPath 1190)	* - To enable # - To disable	Automatic	It varies depending on the country
ISDN Layer 2	102	01, 02, 03 or 11 + 00 to 01 (HiPath 1120 - 00 only PP or PMP or PMP) 00 to 04 (HiPath 1150) 00 to 04 (HiPath 1190)	* - To enable # - To disable	Automatic	It varies depending on the country
B Channel	103	01, 02, 03 or 11 + 00 to 01 (HiPath 1120 - 00 only PP or PMP) 00 to 04 (HiPath 1150) 00 to 04 (HiPath 1190)	* - Master # - Slave	Automatic	It varies depending on the country
TME1 capacity for HiPath 1150	100		Numbers from 1 to 20	Automatic	15

* For E1 external digital lines select PP connection.

** This feature is valid only for digital lines with an attendant number. It is not valid if more than one extension is configured for the slot/DID number/MSN. If the Fax/DID module is installed and configured for digital lines, this feature will also be invalid.

For more details on how to install S_0 OMs see "Limitations to System Expansion" on page 2-5.

Table 7-19 Digital trunk settings

Country	CAC	Country	CAC
South Africa	27	Latvia	371
Argentina	54	Lithuania	370
Australia	61	Malaysia	60
Brazil	55	Mexico	52
Canada	1	Pakistan	92
Chile	56	Peru	51

Country	CAC	Country	CAC
China	86	Portugal	351
China 2	86	United Kingdom	44
Spain	34	Russia	7
Philippines	63	Singapore	65
Greece	30	Thailand	66
IM Spanish	-	Turkey	90
IM French	-	Ukraine	380
IM English	-	Venezuela	58
India	91	Vietnam	84
Italy	39	-	-

Table 7-20 CAC Code (012)

ADSL Module

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Restore ADSL module default settings	013			Automatic	IP 10.0.0.1

Table 7-21 ADSL Module

Relay and sensor on the HiPath 1120

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Sensor function configuration	170		0 = Deactivate the sensor's function (default) 1 = Dial the number specified in "Number Dialed by Sensor Activation" (Code 052). 2 = Activate the relay through the sensor 3 = Detect DTMF code. When this setting is selected, the number that was called must acknowledge or ignore an alarm call by sending an acknowledgement code ("#" DTMF signal)	Automatic	0

Programmed Functions	Code	Intermediate Data	Data to be Programmed	Completing Data Entry	Default
Sensor activation logic	174		0 - Contacts closed 1 - Contacts open	# instead of the sensor	0 - Contacts closed
Time between Attempts for Activating the Sensor	050		Time: 00 to 10 minutes	Automatic	03 (3 minutes)
MSN Assignment for the Sensor	051		Slot: 001 to 140 or * - To delete	Automatic	None
Number Dialed by Sensor Activation	052		Number (up to 20 digits)	Automatic or #	None
Number of Attempts for Activating the Sensor	053		001 to 100 (attempts)	Automatic	001 (1 attempt)
DTMF signals for the Relay	177		Number (up to 20 digits) # - To confirm	Automatic or #	None
Relay*	175		1 - Switch 2 - Monoflop 3 - Invert 4 - Music on Hold 5 - External signal	Automatic	1 - Switch
Timer for Deactivating the Relay	173		000 to 255 (intervals of 0.5 s)	# instead of number	002 - (1 second)
External Ring for Activating the Relay	071	Extension		Automatic	None

* When playing music from an external music source all regulations relating to copyrights for the country in question have to be followed.

Table 7-22 Relay and sensor on the HiPath 1120

7.1.1 Run quick test

Checking terminals

- Check the display of each terminal (for Time and Date). If there is nothing on the display, it means that there is a problem with the terminals or cables. Replace the terminal or inspect cables.
- Check analog terminals.

Checking to see if the systems starts up properly

- Make random internal and external calls.

7.2 Comments about the System's Programming Codes

7.2.1 Important settings

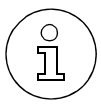
Dialing Mode on an External Analog Line (119)

The system supports two dialing modes for external and absent lines (for unused external line slots):

- DP - Dial Pulse
- MF - Multifrequency (Tone).

Default Access to a Group of External Lines (002)

This feature specifies dialing "0" as the dialing method for a group of external lines. The default external line access code is "0."



If the user enters an external access code of "0," the system will search for a free line in the group assigned. If there is no free line, the system will search for a line in another group.

Analog Line Attendants (142)

These define the extensions or Consecutive Groups that will first answer calls received from a specific external line during a specified time period (Day/Night). Any extension can also be configured as a Second Attendant. In this case an extension only receives a call when the external line answering extension does not answer the call within a specified time (Code 083). When this occurs, extensions configured as Second Attendants for external lines receive the call simultaneously with the First Attendants.

If an extension is connected to a Door Opener device, the device cannot be configured as an Attendant.

Within a Subscriber Group an incoming call rings at the first extension available, according to the call distribution plan configured for the UCD Subscriber Group.

When no first DID is configured, the call will be forwarded to the Overflow extension. In the event that no Overflow extension is configured, the call ends. In such cases no extension is signaled, the call cannot be captured, and the system will continue to wait until the carrier clears this external line and makes it available.

Special Class of Service for Blocked Extensions (096)

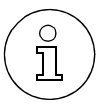
This allows you to switch a blocked extension (with an electronic lock) to any class of service.

Speed Dial/Phonebook (112)

You can store up to 250 telephone numbers of up to 20 digits each in the System Speed Dial. You can assign a name of up to 15 characters to each number. This allows you to do alphanumeric searches in the Speed Dialing Phonebook (see Speed Dial Search in the User Manual).

To insert an interdigit pause you must enter the "P" character using the HiPath 1100 Manager or pressing the Redial Key using a system telephone (see "Interdigit Pause Time Setting (227)" on page 7-47).

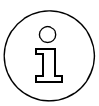
You can look for phone numbers in the Speed Dial Phonebook by entering their assigned speed-dial number. This can be done from any extension. By default there are no speed-dial numbers stored in the phonebook.



For the HiPath 1120, the Phonebook entry 249 is reserved for relay and sensor functions.
To dial an external number enter the external line number instead of the external access code "0."

Denied Numbers List (123)

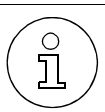
There are 3 Denied Numbers Lists valid for all extensions in the category "Restricted Trunk Access (with Denied List)". List 1 allows you to store 4 numbers; list 2, up to 10 numbers; and list 3 up to 35 numbers.



To change a blocked number enter its Phonebook entry number then the new number.

Permission List (124)

There are 3 Permission Lists that are available for dialing from any extensions in the category "Outward-Restricted Trunk Access". List 1 allows you to store 4 numbers; list 2, up to 10 numbers; and list 3 up to 25 numbers.



To change a released number enter its Phonebook entry number then the new number.

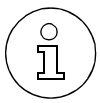
Permission for using Speed Dial numbers without COS analysis (072)

This code allows users of a class with no designated permission to make external calls using the Speed Dial Phonebook.

COS assignment (111)

There are up to 8 access categories for accessing external lines that can be assigned to extensions:

- No Trunk Access (No Permission) - For making internal calls and answering external calls;
- Outward-Restricted Trunk Access - For receiving internal and external calls, and for answering and receiving transferred calls. However, it does not have normal access to make external calls, except for calls dialed directly from the Phonebook or from Permission Lists.
- Restricted Trunk Access (with Denied List) - For receiving internal and external calls and for making external calls to any number that is not included in the Denied List and in Speed Dial directory
- Unrestricted Trunk Access - Can make any type of call.



An extension may be assigned two different categories, one for Day and one for Night Service.

COS Changeover (178)

This code allows extensions to use a feature for temporarily changing over the Class of Service. Therefore, it is possible to allow or deny an extension to transfer temporarily its Class of Service to another telephone.

Language (164)

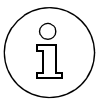
Defines the language for displaying messages on the system telephone display. This field is not automatically updated since it is based on the Country option selected. When the Language field is changed the Country is not automatically changed. It is possible, therefore, to select a country with a different default language. Example: Country: Brazil, Language: English.

Country/Group of Countries (165)

Specifies the country where the system will be used, configuring regional settings accordingly. After Country settings are configured, the system is restarted.

Attendant Console (150)

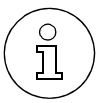
This streamlines the flow of calls to one console equipped with a system telephone with a display.



The Attendant Console does not receive "Direct message to the speakerphone" and it cannot belong to any associated Group.

Carrier Dialing Mode Field: LCR or ACS (225)

This allows the user to change carrier selection and use the best possible option to originate external calls.

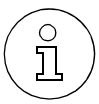


ACS does not affect Emergency Numbers (040) when the user dials directly.

Warning Tone for Calls without LCR (092)

When the system is configured to use LCR, the HiPath 1100 can alert the user when an external call is being places to a destination using a non-default carrier with higher rates for that time of day. This may be due to the unavailability of an external line for LCR (Least Cost Routing).

When using a standard telephone, a warning tone indicates to the user that a different carrier is completing the call at this time. When using a system telephone, the carrier's name will show on the display.



This feature works only for ISDN lines and it must be provided under contract from a carrier.

7.2.2 External line settings

Group of External Lines (156)

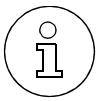
Allows you to configure the access to an external line or a group of external lines using the access code "0" or another than.

Seizure priority by type of external line (194)

This setting specifies which type of external line will be seized when making an outgoing call. External lines can be accessed using the access code "0" or the code specified for a group of lines.
If the PABX has digital and analog lines, you can specify which type of line will have priority.

External analog line seizure protocol (017)

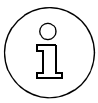
This feature specifies the protocol to be used by the system for seizing an external analog line, based on the local carrier's information.



This features is only available for Canada.

Caller ID for Analog Lines (005)

Enabled by the local Carrier, this service provides Caller ID over FSK and DTMF protocols on analog lines.



When a Country setting is specified, the appropriate protocol is automatically selected.

External Line Call Direction (155)

Specifies how to access external lines when receiving or making a call.
An external line can be:

1 = Bidirectional

2 = Incoming unidirectional

3 = Outgoing unidirectional

Flash Duration on an Analog Line (118)

Specifies the time during which the Flash signal remains active on the external analog line in relationship to the detection defaults set at the exchange.

Reseizure Timeout for an External Line (129)

This setting specifies the timeout to reseize the external line after a call has been completed.

Maximum time between rings for an incoming call (117)

This setting defines a time interval of approximately 6 seconds between two pulses transmitted by the local carrier. At the end of this time interval, the system disconnects from the external line and gets ready to receive other calls.

Coefficient for an external analog line (147)

This function couples the impedances for a system and the public network external analog line to which it is connected.

Polarity Inversion (158)

If your Carrier provides this feature, call detail recording occurs in real time. That is, when the called party answers the phone, the public exchange sends a signal for the system to start call detail recording.

Tone Detector (160)

This setting has the system wait for a dial tone detection on the public exchange before making it available to the user. With Standard MF telephones the number dialed will be transmitted to the external line approximately 4 to 5 seconds after the last digit is dialed.

Connection Type (133)

This setting determines whether the Group of external lines that is connected to one of the HiPath 1100 systems is also interconnected to another C.O. or PABX.

Second External Access Code (134)

This setting determines the code to be sent by the Satellite PABX in accordance with the access code for external lines on the Master PABX. This code is used for determining the availability of a dial tone on an external line.

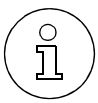
Auto-Seizure Mode for an External Line (036)

This feature dials an external call when the handset is lifted, without using an access code (e.g., 0). When this setting is selected you must enter a code to dial internal calls or activate the Extension key.

Activating this feature may impact the programming of the Dialing Mode (Code 68), assuming option 0 (Automatic ID) is selected. It is recommended that you reconfigure the Dialing Mode (Pulse or Tone) for the extensions.

False tone (063)

This sends an external line dial tone even when there is no external line available (valid for MF/DP extensions only).



If LCR (configured via the) or Emergency Numbers is enabled, the user will hear a False Tone regardless of what has been programmed.

Internal Access Code for Automatic Seizure (226)

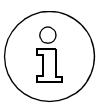
This features specifies the code to be used for making internal calls when an extension is configured for Automatic Seizure of an External Line.

Access codes are configured according to the country. If no access code is specified, the feature will not work.

Country	Code
Spain Latvia Lithuania Australia Greece	99
Italy	69
Portugal	6
Other	None

External line present (079)

This setting allows you to determine whether a given external line exists.



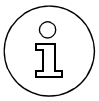
In the case of an external ISDN line, if the setting is configured as Absent two interfaces will be disabled. For digital lines (E1 CAS) you must also program a TME1 Module using the E1 Trunk Manager application.

Waiting time for a Second Attendant to answer a call on an external analog line (083)

This setting specifies a timeout before the call starts ringing at the extension.

Overflow to a Group of External Lines (099)

This feature makes a second group of external lines available in the event the lines in the first group are busy. The availability of the second group of external lines depends on the extension's class of service.

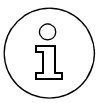


The External Line Reservation (*493) does not work for the Overflow Group.

7.2.3 Programming an Extension

Pickup Groups (143)

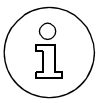
You can classify extensions in up to 16 Pickup Groups so that an extension from one group can answer calls that ring at other extensions in the same group.



You can also add extensions to an existing Pickup Group.

Call Groups (CG) (113)

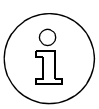
This setting groups extensions in Call Groups (CG) that can be accessed through numbers 770 to 779. Whenever this number is dialed, every telephone in the group rings until one of them answers.



An extension can be configured for more than one Call Group (CG).

Call Forwarding within a Call Group (CG) (222)

This feature works only on digital lines. It provides Call Forwarding for extensions belonging to Call Groups. When a call is routed to a Call Group, it rings at all extensions at the same time. The extension configured for Call Forwarding will ring at its destination. If the call is answered, the other extensions in the group stop ringing. Otherwise, the call rings again until one of them answers it.



External Call Forwarding cannot be used for an extension that belongs to a group when "Call Deflection" (Code 228) is activated (does not work for analog lines).
In this case the system does not receive any information about the forwarded call having been answered or not. Since the system does not have this information, it continues to signal all other group members.

Alert Ring Timeout for Pickup Groups (035)

Incoming calls are signaled on standard telephone sets within a pickup group (Code 43); in telephones without a display they are signaled by an alert ring signal. The duration of the ring tone can be specified.

Callback/Urgent Call Activation after Timeout (037)

When an extension or external number (on an ISDN digital line) is busy, this configuration allows you to set a timeout for activating the Recall or Urgent Call features after approximately 7 seconds.

Call Name/Number Display (039)

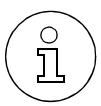
This setting specifies the type of Caller ID information that will be shown on the telephone display.

UCD Subscriber Groups (023)

This setting creates a group of extensions that can receive internal and external calls.
A Subscriber Group is a group of extensions available for answering calls made to a specific number assigned to it.
An internal or external call directed to this group will be answered by the extension that has been free the longest.
In the event that all extensions in the group are busy external calls are routed to a hold queue.

Collect Call Barring for UCD Group (007)

When collect call barring is activated, all collect calls are automatically rejected by the system (for Brazil only). The system bypasses Collect Call Barring for members of a UCD Group, that is, call barring for the group is only verified.



If a call has been answered at least once by the system, Collect Call Barring cancels the blocking.

When an incoming call over a digital line is forwarded for not being answered (*14) and Collect Call Barring is activated, the call will ring at the first DID for the external line.

Message Waiting for UCD Queue (024)

This feature lets you assign a message or Music On Hold for a UCD Group extension when all extensions in the group are busy or unavailable.

UCD Queue Size (025)

It specified the number of calls that can wait on a UCD Queue, for each UCD Group.

Timeout for Activating a Call Waiting Message for a UCD Queue (026)

It allows you to specify a timeout for routing calls to a waiting queue in the event that agents are busy or unavailable.

Different timeouts can be set for playing a different message for each UCD Group. The default setting is for playing a message immediately or as soon as a call is placed in a queue.

UCD Overflow Call Destination (027)

This setting specifies the overflow for UCD calls when:

- All agents are logged out
- A UCD Queue reaches the maximum number of calls waiting
- The queue's overflow timeout expires.

Different overflow locations can be set for each UCD Group.

Round-robin Distribution of Calls to Agents (028)

This setting allows you to configure a round-robin type distribution of calls so each call rings automatically at the station of the next available agent. If no agents are logged in, calls are forwarded to an overflow call destination.

Time for Agent's Notes (029)

This features allows you to set a period of time for the agent to leave the Group without being disturbed and make notes about a call.

Ring Signal Time at an Agent (030)

This setting specifies how long an incoming call will keep on ringing at an agent's station before it overflows.

Time in a UCD Queue (031)

This setting specifies the maximum length of time a call is allowed to remain in a UCD Queue.

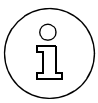
Once the time expires the call is disconnected or forwarded to a UCD overflow location. The default setting for a call to remain in a Queue is 1 minute.

Waiting Message before Signaling a UCD Call (032)

This feature allows you to connect a call waiting message for incoming calls before they ring at an extension.

Minimum Time for Call Waiting Message in a UCD Queue (033)

This setting specifies a minimum length of time until a message is played for calls waiting in a UCD Queue (032).



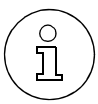
This feature works only when the Time in a UCD Queue option is enabled (Code 031).

Hunt Groups (HG) (021)

This setting allows you to group extensions into a maximum of 10 Hunt Groups (780 to 789).

A Hunt Group (HG) is a group of extensions assigned for answering calls made to a specific number.

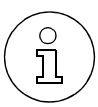
When an extension does not answer an internal or external call within a specified period of time, the call rings consecutively at the available and the busy extensions in the group. When no one is not available, the extension may disconnect from the Hunt Group.



This feature works only for digital lines.

Call Forwarding within a Hunt Group (HG) (223)

This feature works only for digital lines. It provides Call Forwarding for extensions belonging to Hunt Groups. When a call is directed to a group, it ring at each extension, according to the group settings (linear or round-robin) When an extension is set for Call Forwarding, calls are routed to the destination as configured. If a call is not answered, the other extensions in that group do not ring. When no Call Forwarding is set, calls ring at the other extensions, as configured for the Hunt Group.



External Call Forwarding cannot be used for an extension that belongs to a group when "Call Deflection" (Code 228) is activated (does not work for analog lines). In this case the system does not receive any information about the forwarded call having been answered or not. Since the system does not have this information, it continues to signal all other group members.

Search Mode for Hunt Groups (022)

This setting specifies the type of search to be performed for an available extension within a group, whether linear or round-robin.

When a call is received by a Hunt Group configured for Linear distribution, the search starts from the first extension within the group. In a Round-robin distribution the search starts from the extension following the last extension selected.

Override (144)

This setting allows a specific extension to "**Override"** two other extensions with a conversation in progress.

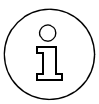
Within the system, Override has the same limitation as the Silent Monitoring and Conference features. A maximum of 2 simultaneous Silent Monitoring is allowed by the system. Important: The Override feature is ticketed as a Conference.

Silent Monitoring (046)

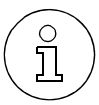
This setting specifies the extension for performing Overrides without a beep.

Within the system, Silent Monitoring has the same limitation as the Conference and Override features. A maximum of 2 simultaneous conferences is allowed by the system. Important: The Override feature is ticketed as a Conference.

If the monitoring or the monitored party change status, Silent Monitoring will be canceled. This occurs, for example, when a call is placed on hold.



On Profiset 3030 telephones the MUTE option is automatically activated with Silent Monitoring.



Feature limited to specific countries.

Within the system, Silent Monitoring has the same limitation as the Conference and Override features.

A maximum of 2 simultaneous conferences is allowed by the system. Important: The Override feature is ticketed as a Conference. If the monitoring or the monitored party change status, Silent Monitoring will be canceled. This occurs, for example, when a call is placed on hold.

Caller ID for analog extension (CLIP) (010)

When this feature is enabled and the extension receives an incoming call, the DTMF generator will send a signal and display the callers information at the extension. When a E805C (Brazil) or a Gigaset 4010 telephone is used, the Caller ID information is shown on the display.

Electronic Lock Password Reset (126)

It allows resetting the default password (00000) for the Electronic Lock in the event the user has changed or forgotten the password.

Timeout when there is no answer (130)

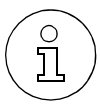
This setting specifies the time duration for external calls to ring at an extension before being transferred to a second attendant, in case that there is no answer (*14).

Dialing Mode (168)

This setting specifies the dialing mode to be used by each extension or whether the dialing mode should be detected automatically. The dialing modes are: pulse (DP) and tone (MF).

Flash Detection Time (131)

The Flash signal generated by a Standard MF telephone will only be detected if it is within the range configured for the system.
Therefore, it is recommended that you check the Flash detection time of MF telephones and adjust the settings to approximate them as much as possible.
The configurations for detection of Flash may vary depending on the country.



The system has the capability for Automatic Flash Detection.

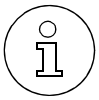
Overflow/Escape Extension (132)

An overflow extension only receives calls when the extension that was called is not available, does not answer or was not programmed.

The overflow extension can be accessed through the specified internal number and cannot be used or programmed as a Fax extension.

Hotline (145)

This function lets you dial automatically a number previously programmed into the Phonebook as soon as the handset is lifted.



Multiple extensions can dial a number programmed in the Phonebook.

Warmline (162)

It allows you to specify a period of time for activating the Hotline.
Each extension can have a different timeout set for the Warmline, from 0 to 9 seconds.

Assigned Group (151)

This feature allows you to assign many extensions to one executive telephone.
There are 8 groups available with 16 extensions each (all extensions must use system telephones).

CD Interface Assignment (146)

It allows you to connect a system telephone to any extension slot.

The default setting for this assignment is:

HiPath 1120	HiPath 1150
A1/B1 ⇒ C1/D1	A1/B1 ⇒ C1/D1
A2/B2 ⇒ C2/D2	A2/B2 ⇒ C2/D2
A3/B3 ⇒ C3/D3	A3/B3 ⇒ C3/D3
A4/B4 ⇒ C4/D4	A4/B4 ⇒ C4/D4
	A5/B5 ⇒ C5/D5
	A6/B6 ⇒ C6/D6
	A7/B7 ⇒ C7/D7
	A8/B8 ⇒ C8/D8

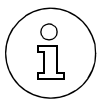
Table 7-23 CD Interface Assignment

Extension Coefficient (148)

This function couples the impedances of the system and the extension line to which it is connected.

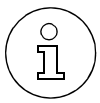
Collect Call Barring by extension (193)

When this blocking is activated, the system automatically rejects all incoming collect calls over a digital line; calls received over an analog line are rejected only at the moment they are answered.



If a call has been answered at least once by the system, Collect Call Barring cancels the blocking.

When an incoming call over a digital line is forwarded for not being answered (*14) and Collect Call Barring is activated, the call will ring at the first DID for the external line.



To enable Blocking on digital lines, please inquire your local carrier.

Type of Equipment Connected to an Extension (003)

This setting specifies the type of equipment that is connected to a selected extension slot.

Auto-Answering Mode (034)

This setting specifies the use of the Auto-Answering Mode for the telephone by using a feature code (see Functions used for Making Calls - Speakerphone Auto-Answering Mode in the User Manual).

Billing alert for analog extension (041)

This setting allows you to transmit billing pulses to an analog extension.

Please refer to the documentation provided with the telephone set connected to the extension to find out if a billing indication is supported and which transmission mode is used.

Timer for outgoing external calls (047)

This setting specifies a maximum time for the duration of an outgoing external call for each extension.

The time count starts upon connection of a call and will never restart while the call is in progress (e.g., when there is a transfer). Once the time expires, the call is terminated.

Activate/Deactivate timer for outgoing external calls (048)

Activate/Deactivate the timer for a specified extension.

Timeout for a Second Attendant for MSN (082)

This consists of a time period (in seconds) during which an incoming call rings at the First Attendant of an external line. If the call is not answered within the specified amount of time, it will be directed to the Second Attendant.

Modem Extension (085)

This setting specifies the extension where the modem will be connected for serial remote access.

MSN Extension Assignment for Outgoing External Calls (086)

Allows a group extension to make outgoing calls using one of the selected MSNs.

Transfer when Extension is Busy (217)

This setting allows transferring a call when an extension is busy. A warning tone can be heard on the background at the extension that receives the transfer, meaning that there is a call waiting.

When an extension does not answer a call after a specified period of time or because it is configured with Do Not Disturb or Data Protection, the call rings at the extension that originated the transfer. The period of time a call signals a busy extension can be configured using the "Timeout when there is no answer (130)" on page 7-39 feature or the HiPath 1100 Manager.

Elapsed timeout for external-to-external connection (218)

It allows configuring a timeout between two external calls when no other extension is involved in the call.

The user hears a warning tone before the timeout expires. A warning tone is sent 10 seconds before the end of the timeout. When the call is between two external lines with no internal extension involved, the call is terminated once the timeout elapses.

Configuring a Timeout for an External-to-External Connection (219)

It allows configuring a timeout between two external calls when no other extension is involved in the call. Call timeout can be set from 1 minute to 24 hours (default setting is 1 hour).

External-to-External Transfer (091)

This feature allows a specified extension to transfer an external call (incoming or outgoing) to another external call.

An External-to-External transfer can only be made when at least one of the lines is a digital line.

External-to-External Transfer over an analog line is only allowed in Turkey. An External-to-External Transfer over an analog line is terminated in the following three situations:

- Elapsed timeout for external-to-external connection

(Code 218)

- When a busy signal is detected
- Polarity Inversion (Code 158)

Conditional Forwarding limited by extension (097)

Incoming calls can be forwarded to a specified destination list, as configured in a TAPI-type application such as a Windows TAPI Browser. The settings of the previous list or Unconditional Call Forwarding will be replaced with the new list settings.

The following information is needed for configuring a list:

- Incoming Caller ID;
- Day of the week and time;
- Type of call (internal or external).

When more than one number have been specified for incoming calls to an extension, the call forwarding priority will be:

1. Checks to see if the Caller ID for the incoming call matches the number programmed for the extension

2. Checks to ensure that the Type of Call (internal or external) has been configured

3. Checks the time settings.

- This configuration is available through a CTI interface.
- The system allows up to 50 Call Forwarding numbers.
- Conditional Call Forwarding has priority over an unconditional Call Forwarding.
- Conditional Call Forwarding cannot be used on a S_0 extension.

Functions: The extension has permission for Conditional Call Forwarding and the system is connected to a PC running a TAPI application.

1. Conditional Call Forwarding rules and conditions for a specified extension can be defined by using a Windows TAPI application
2. Apply the settings to the extension desired.
3. From this moment on the extension will be forwarded.

Permission for Conditional Call Forwarding (098)

This allows a conditional forwarding to occur.

7.2.4 DISA

This setting allows you to make an external call from an external telephone (as if it was an extension) through your system. In addition, the following features can be activated or deactivated: Call Forwarding, Feature Deactivation, Conference, Night Service, Suffix-Dialing, Door Opener, Electronic Lock, Individual Speed Dial, System Speed Dial, Relay, and Do Not Disturb.

Only one external call can be made or one feature can be used at a time. After successful activation of a feature, the call is immediately terminated. In the case of a call, it is terminated right after a caller hangs up.

TAPI only monitors physical ports. To operate correctly, a DISA feature must use special ports, and those cannot be monitored. If a physical port is used when the DISA feature is active, the TAPI will be able to monitor it.

DISA Permission (018)

This setting specifies an extension for using the DISA feature.

MSN DISA (019)

This specifies from which MSN the DISA features will run.

The MSN number must be registered in the External Number Registration (Code 191).

External Line DISA (020)

This setting specifies an external line and the timeout for DISA answering.

The system allows only one DISA call. When there is a DISA call in progress, a second call to a DISA external line or one with a DISA answering mode is treated as a regular call. If a call is received over an external line configured as a Fax/DID and DISA, the call is answered by the Fax/DID.

When an external digital line is used for the DISA feature, its MSN number ("MSN DISA" - Code 019) is always active for answering DISA.

When DISA is activated for incoming external calls on an external analog line, all calls are answered by DISA.

7.2.5 External Message Waiting Indicator (MWI)

With this feature a group of extensions called an External MWI Group is able to receive signals generated by the Voice Mail Server that indicate when there is a message waiting in the user's mailbox.

For standard telephones with a display MWI will only be indicated if a CLIP is configured for the extension using option 3 or 4 ("Caller ID for analog extension (CLIP)" on page 7-8).

Activating External Message Waiting Indicator (014)

Activates the MWI feature for a group of extensions.

External MWI Group (015)

Extensions configured in this group are allowed to receive a Message Waiting Indicator from an external Voice Mail Server where user's messages and greetings are stored.

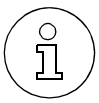
Message Waiting server number (065)

This setting specifies a MSN number for the Waiting Message server.

7.2.6 General settings

Music on Hold (136)

This setting specifies the type of music the caller on hold will hear.



Code 136 is used when there is no MOH group assigned to the extension.

Assigning Extensions to an MOH Group(087)

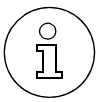
This setting allows you to distribute extensions in two MOH groups.

Music source for the MOH Group (088)

This setting specifies the type of music the caller on hold will hear.

Music Source Extension (089)

This setting specifies the extension to which a music source is connected.



The extension specified here is deactivated when the **External Music Source - Extension Assignment (064)** option is configured.

External Music Source - Extension Assignment (064)

With this feature Music On Hold can be played from a terminal connected to an extension slot.

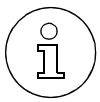
Setting the time for an external Room Monitor (169)

Allows you to activate room monitoring for a specified period of time, using the telephone's microphone.
If a Fax/DID module is installed in the system, room monitoring can be implemented using an external telephone (Babyphone).

Interdigit Pause Time Setting (227)

It lets you configure a pause ("P") between MF digits. This can be used when programming System and Individual Speed Dialing, system telephone programmable keys or for activating Suffix Dialing.

This period of time can be set from 1 to 5 seconds. The default setting is 2 seconds.



To insert an interdigit pause you must enter the "P" character using the HiPath 1100 Manager or pressing the Redial Key using a system telephone.

Each "P" character inserts a 2-second pause (default) in the connection. A longer pause can be inserted by entering more than one character (for example, for a 4-second pause enter "PP")

The first "P# or #" specifies that the next digits for A will only be forwarded if:

- External digital line or S0 extension:

P# - DTMF digits are sent after local carrier identification, when B is not answered.

- DTMF digits are sent after B is answered.

- External analog line or analog extension:

P# or # - DTMF digits are sent after B is answered.

Other characters ("#" and/or "*") may be added after "P#".

Caller List Type (049)

This setting specifies whether only external calls or all internal and external calls should be displayed in the Caller Lists.

Deleting digits from the Caller List (171)

Specifies the digits that do not need to be repeated when making a call.

Date/Time - Manual Setting (114)

Sets the current Date and Time for the system. When the default configuration is restored (99), the Date setting displays information about the date the software was create and will display the time as 12:00.

Date/Time Automatic Update (038)

This setting allows automatic synchronization of the system's date and time through the local carrier, during an external call.

The settings that are automatically updated are: Month, Day, Time and Minute. Year is not included in the FSK message settings - it is defined as the software's manufacturing date and can be manually adjusted.

Callback for external calls via ISDN (221)

By configuring this setting, an external ISDN call can request a Callback for the MSN number called.

A callback can only be scheduled for a MSN.

MSN numbers must be programmed and must have attendants.

Call Charge Unit (195)

To show call charges in currency units you must specify a call charge factor. Pulses are multiplied by this factor.

A Call Charge unit consists of a pulse sent over a line by a public exchange to provide and display call charge information according to the type of call (local, long distance, International, etc.) and other criteria determined by the carrier.

Multiple for Call Charge Factor (042)

This setting specifies the multiplier for Call Charge factors. The default setting specifies that each pulse be multiplied by 1 for both factors.

Call Charge Factor for extensions (043)

This setting specifies whether the extension should be assigned a rate schedule and, if so, which Factor should be used to calculate call charges.

Call Charge Value by Extension (197)

This setting specifies the amount that can be spent by each extension.

Call Cost Limit by Extension (044)

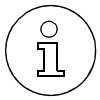
This setting limits the amount available to an extension for Call Charges.

Date for Updating the Call Cost Limit for an Extension (045)

This specifies a day for resetting the Call Charge limit.

Setting a System Password (180)

Access to the system's Programming Mode is protected by password to prevent unauthorized access. The default password is "31994." This password can be changed.



Make a note of the new password and store it in a safe place. If you forget the password, the only way to access programming mode is by asking a support technician to give you access.

Night Service Password (149)

Independently from the system password, an additional password can be defined for activating/deactivating different features (e.g., Night Service, relays). The default password is "31994." This password can be changed.

Restoring Default Settings (199)

Restores all default factory settings. After entering this code, the system will restart. Only the settings for Country/Group of Countries (Code 65) will be saved as last configured.

Regular Timers and System Timers (139 and 140)

These settings allow you to reset the times for some features and signals according to the specific characteristics of a user or a country.

DTMF signals for the Relay (177)

When an alarm is triggered, the HiPath 1120 makes a call using the Speed Dial entry 249. The slot number is called and a sequence of digits in DTMF format is repeated every 5 seconds immediately after the connection is established. This sequence of 25 digits is used to determine the source of the alarm so that an alarm exchange, for example, can identify from which PABX the alarm is coming from. If the receiving exchange does not acknowledge the alarm within 1.5 minutes, the procedure is repeated every 3 minutes.

Emergency Numbers (040)

You can specify up to five emergency numbers. When one of these numbers is dialed and all external lines are busy, the call on the first external line will be interrupted and the line used for making the emergency call. Only an incoming call over an analog external line will not be disconnected.

.

The name assigned to these numbers can have up to 15 characters.

Emergency Numbers are not affected by the ACS feature.

Emergency calls never use external lines configured for:

- Internet access
- An absent external line
- An external line configured to accept only incoming calls

Module Detection (061)

This setting specifies the slots to which new modules are connected, so that the system may detect them.

The modules can only be connected/disconnected when the system is turned off.

If the option "Detect all slots" is selected, the system will detect the components in the following order:

1 - External lines/digital extensions

2 - External lines/analog extensions

This means that if there was a previous configuration in which the order of analog lines/ extensions was specified, that order will be changed when a TME1 or S0 modules is added to the system.

Example: In a HiPath 1150 system that has only a MB Module (2 external lines and 10 analog extensions) the numbering pattern will be 801 and 802 for the external analog lines, and 11 to 20 for the analog extensions. The insertion of a S0 module produces the following configuration:

- 801 to 805 for the external digital lines

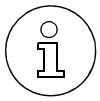
- 806 and 807 for the external analog lines

- 11 to 15 for the ISDN extensions

- 16 to 25 for analog extensions

- Extension 16 as the Programming extension.

If "Detect only specified slot" is selected, the existing numbering configuration will remain. Only the module will be detected by the system.



The modules can only be connected/disconnected when the system is turned off.

Type of MSN Signal (073)

This setting lets you choose one of the four types of rings for various calls, and a ring for registered MSNs. The default configuration for MSNs is Type 1 ring.

Reference Clock (090)

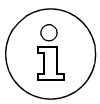
This allows you to specify a module slot for the system's Reference Clock.

Assigning a Temporary MSN (093)

This feature allows you to use a temporary MSN from your own directory to make an external call. Or, to use the "Key Assignment" feature to assign a key to a MSN for monitoring incoming and outgoing calls (see Key Assignment - Using a Temporary MSN for Making a Call, in the User Manual).

MSN Identification Mode (224)

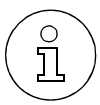
This setting specifies how the MSN is shown on a system telephone display. In the default configuration no Mode is configured.



This feature does not work when option 1 is selected in Code 039 "Caller ID/ Number".

Remote Administration Password through an MSN (220)

This setting allows you to specify a password so that all incoming calls from a remote HiPath 1100 Manager that provides the correct password can be authorized to execute Remote Administration. In the default configuration, no password is set.



In order to enable this feature the option "Without MSN Verification Code" (Code 070) must be enabled.

7.2.7 Updating the Software

SW Information (001)

This displays information about the system's software. To view this information use a system telephone with a display.

The switch must be connected to a PC with CommServer and APS Version Verifier running.

Local SW Update (060)

This feature initiates the download of the last software version released for the PC and then downloads the update for the exchange. For this feature to work the system must be connected to a PC with CommServer and APS Version Verifier running.

Activating a SW Update (055)

This feature allows you to update the system's software automatically at a scheduled date.

Day for Update (054)

This setting specifies a day for starting the data transfer (upload process).

Time for Software Update (058)

This setting specifies the time of day for starting the data transfer on the specified day.

External Number for Updating the Software (056)

This setting specifies a number to be used by the system to update the software.

Frequency for SW Update (057)

This setting specifies regular intervals in months for transferring data.

During a transfer the telephone operates as usual.

The default setting specifies updates to be done in a monthly basis.

Uploading the SW Update (059)

This setting specifies the moment data downloaded will be uploaded to the system's memory.

While this upload is in progress (lasting approximately 3 minutes), the telephone remains out of service.

The default setting specifies for data to be transferred at 00:00 hours.

7.2.8 Remote Configuration

Service Call (*994)

This feature allows you to call a service center and let administration be carried out remotely through the on-going call.

Remote Software Update (*9415)

If authorized, a software update can be started automatically.

Remote Operation Mode (084)

This specifies the remote updating of the software.

An update can be carried out remotely over external digital ISDN lines and analog lines connected to a modem.

Remote Administration Activation (066)

This setting allows the system to be administered remotely.

External Number Configuration (067)

This specifies external numbers (Service MSN without external access code 0) that are able to perform Remote Administration.

The default configuration does not specify a MSN.

Remote Administration Password (068)

This specifies a password (5 digits) for enabling Remote Administration from an external number (Service MSN).

The default configuration does not specify a password.

Remote MSN (069)

This setting specifies an ISDN line MSN as the Remote MSN.

The system will only allow Remote Administration when this remote MSN is used.

The default configuration does not specify a MSN.

Without MSN Verification (070)

Remote Administration will be performed without verifying the Service MSN that has been transmitted.

Remote Administration via DTMF (157)

With this feature you can configure the HiPath 1100 remotely using a MF telephone.

- Remote configuration:
  Remote Configuration must be enabled and the programming extension must have a conversation in progress on the external line over which programming is to be performed. In Talk mode enter the code (*991) at the programming extension to transfer control of the HiPath 1100 to the remote programmer. The remote programmer must then enter the system password using a MF telephone.
  To execute the required programming proceed as if the remote telephone was connected directly to the system.
- If there is a Fax/DID module available:
  Enter the code (* 95) using the remote MF telephone after answering the call. The remote programmer must then enter the system password using a MF telephone.
  To execute the required programming proceed as if the remote telephone was connected directly to the system.

If the system is connected through a serial cable to a PC with access to the telephone system, the programming can also be done using a modem in conjunction with the HiPath 1100 Manager. Refer to the instructions provided in the Help file.

Ending Remote Administration (196)

Ends remote configuration by means of a Standard MF telephone.

7.2.9 Entrance Telephone

Configuring an Entrance Telephone (115)

This function enables the system to use an entrance telephone. The HiPath 1100 allows for the connection of up to four Entrance Telephones/Door Openers on extension slots. Each Entrance Telephone must be individually activated in the system.

1. By default no slot is set as an Entrance Telephone.

2. Each module of the TFE interface allows only one entrance telephone to be connected.

3. Each TFE module works as an entrance telephone OR pager interface. To use both functions, two modules are required.

Door Lock (116)

This feature detects when there is a locking device installed.

DIDs for Entrance Telephones (159)

Specifies the extensions that will be called when the Entrance Telephone is activated.

The default setting is extension 11/101.

Permissions for the Door Opener (125)

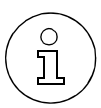
Specifies the extensions that will be able to use the electric Door Opener.

This class of service is assigned to all extensions by default.

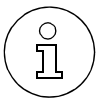
7.2.10 Call Detail Report Manager

Information about calls received and made are stored in the system's memory. CDR records can be reviewed in the following manner:

- By using a PC or printer connected through a serial interface.
  To issue a ticket list, a ticketing application such as CallReport must be installed on the PC.
- By using a PC connected on a local network. The ticket list can be viewed using Windows HyperTerminal. Configure the settings by following these steps:
  - Configure the CommSever for ADSL connection.
  - Select the "Serial Printing" checkbox on the HiPath 1100 Manager, under Advanced -> System Settings
  - On the HyperTerminal select TCP/IP Mode and enter the configuration number for an ADSL module (the default is 10.0.0.1) and the port (9366);
  - Do not use a Serial or ADSL connection type while using HyperTerminal. During ticketing the administration can be performed via USB connection, optiPoint, ISDN or analog modem.
  - Tickets will only be shown after the end of the first connection.
  - For establishing a serial or ADSL connection to the HiPath 1100 Manager disconnect HyperTerminal.



It is recommended that you uncheck the "Serial Printing" checkbox on the HiPath 1100 Manager if tickets are not being issued over an ADSL connection.



To provide accurate call details, you must update the system's time and date information.

The following information is recorded:

- Current date (Date)
- End of call (Time)
- External line used (Ln)

Note: Example of the (Ln) field content for ticketing:

External Line	(Ln) Field
801	00
802	01

- Extension (Ext)

Some specific types of access will be displayed in this field, indicated by the following numbers:

Access	(Ext) Field
Sensor - Outgoing call	9101
Data Link - Outgoing or incoming data call for system administration	9201
DISA - Incoming call	9301
Fax/DID - Incoming call	9401

- COS Changeover (WCOS)
- Ring duration
- Call duration
- Dialed number (Number)
  The system allows you to configure a feature that ensures confidentiality as to the number dialed at the time the CDR record is issued. This is done by replacing the symbol "?"
- Type of call (I):
  - 1 = Incoming call
  - 2 = Outgoing call
  - 5 = Transferred incoming call

  - 6 = Transferred outgoing call
  - 7 = 3-way conference with incoming
  - 8 = 3-way conference with outgoing call
  - * = Incoming call not answered yet = incoming call
- Impulses (Call fees) with a TME1 Module installed.
- Cost Code (Account code).

Example

Date	Time	Ln	Ext	WCOS	Ring	Duration	Number	I	Callfees	Acc. code
22.11.99	14:00:00	01	21		00:14	00:01:34	2222222	1		

Table 7-24 CDR Header Layout

When a call is transferred, a new CDR record is created. The hold time at the external line is accounted for by the extension that transferred the call.

Ticket Cost Code Ticket (095)

External calls can be assigned Cost Codes which provide more control over telephony costs (see Functions Used During a Call - Cost Code, in the User Manual). This information may be presented on the billing ticket.

Baud Rate (120)

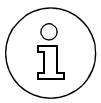
The system can be connected to a PC or printer with a V.24 adapter to display or print the call detail report. The communication speed can be set to ensure proper data transfer.

Digit Suppression in CDR Record (121)

This setting specifies how many end digits can be omitted in the data output when dialing a call on an external line. They will be replaced by the symbol "?."

Call Detail Report for Incoming Calls (161)

When this option is selected, call details are shown in the CDR record.



For the system to receive Caller ID information over digital, E1 CAS/S2 or analog lines the Caller ID feature must be enabled by a local carrier.
Caller ID service must be contracted with a local carrier.

Call Detail Report Filter (167)

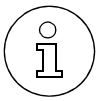
The number programmed in this filter specifies the type of outgoing call to be recorded, based on the first four digits of the dialed number.

For example, in order to record only outgoing international calls you must program the digits "00." The maximum number of digits is 4.

In the default setting a digit sequence is not configured.

Call Detail Report with a Serial Interface (006)

This setting specifies that the Call Detail Report will be done through a serial interface.



CommServer does not work when this setting is enabled.

7.2.11 Fax/DID Feature

Provides automatic answering of an external call in addition to message playback and fax signal detection. A caller can dial any extension or enter any digit configured in the Answering Menu and be transferred to another extension or group.
The feature has five modes of operation: Fax only, DID, Fax/DID, message and Auto Fax. If a S0 or TME1 module is also installed, a fourth mode of operation is available: a DID for digital lines.
Messages stored in this module can be programmed as a Second Attendant for external calls or as a Forwarding Destination for an Extension (see Call Forwarding in the User Manual). The maximum number of simultaneous conferences supported by the system is 8.

Call Answering Menu (009)

The Fax/DID lets you create a customized call answering menu transferring the call to an extension or a group, depending on the number entered.

A call is transferred to a preconfigured destination after 3 seconds. If a digit is entered before this period of time, it will be analyzed and the call will be forwarded to a new destination. The destination can be an extension or a group.

When the Call Answering Menu is not configured, the system can only detect extension and group numbers.

Message Recording (137)

Allows you to record and playback greetings and messages, transfers and alarms. Simply speak to record or listen to the playback of a message right after the end of the sequence.

To stop the recording or playback of an greeting or message press the key "1".

Call Answering Mode Configuration (127)

The Fax/DID has five modes of operation available for the different messaging requirements.

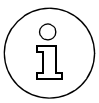
Fax Reception Extension (128)

Specifies to which extension a call will be transferred when a fax signal is detected on an external line.

In "Type of Equipment Connected to an Extension - Position 003" you must specify the extension as a fax extension before programming Code 28.

Collect Call Barring (008)

When this blocking is activated, the system automatically rejects all incoming collect calls to a Fax/DID over a digital line. Calls received over an analog line are rejected only at the moment they are answered. Call Barring will not work in the case of calls transferred to a Fax/DID.

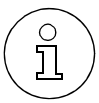


If a call has been answered at least once by the system, Collect Call Barring cancels the blocking.

When an incoming call over a digital line is forwarded for not being answered (*14) and Collect Call Barring is activated, the call will ring at the first DID for the external line.

MSN Answering for Fax/DID (080)

This setting specifies a Fax/DID answering mode for each MSN number.



Call Deflection (page128) (Code 228) will not work in this case.

Fax Extension for MSN (081)

After the detection of a fax signal, the Fax/DID can transfer a call to a pre-configured MSN number. The DID Mode does not need to be configured for this feature.

Fax/DID Release after a Timeout (094)

When a Fax/DID is answering eight simultaneous calls, the next call will hear a ring signal generated by the local carrier, which means that the HiPath 1100 has not answered the call yet. If the timeout specified for this feature is shorter than the local carrier's timeout, the call can be routed in two different ways, depending whether the PABX received it over an analog or a digital line:

- In the case of an external analog line, the PABX must bypass the Fax/DID module and forward the call to an analog line attendant (in the event that there is no attendant, the call is forwarded to an overflow extension). Of course, if a channel becomes available in the meantime, the call will be answered as usual and the timeout will be ignored.
  However, if the time specified for this setting is longer than the local carrier's timeout (1.5 minute for Brazil), the call will be disconnected by the local carrier before the PABX can forward it to an attendant.
- In the case of an external digital line (CAS or ISDN) the PABX sends a "disconnect" signal to the line upon receiving the call. This means that the time specified for this setting is ignored in the case of digital lines. When a Fax/DID module is busy answering 8 simultaneous calls, the external user hears a busy signal.

When the Fax/DID module is busy answering calls, it means that it is playing one of the 12 programmed messages or waiting for the user to press a key (in the case of a DID). If the Fax/DID module has answered a call and forwarded it to an extension (the call is ringing somewhere), that call will no longer considered one of the eight calls that is being answered by the Fax/DID module keeping it busy. In summary, once the Fax/DID module has forwarded a call to an extension, the channel is available for another call.

7.2.12 EVM Module

EVM (Entry Voice Mail) is a Voice Mail solution for HiPath 1100 systems. Its features are controlled through he keys on a system telephone or any type of equipment with MF dialing capability. EVM is configured and activated by technical personnel through the 1100 Manager Administration Software or a programming extension. When the system uses EVM, the UCD group is reserved for interface use.

Duration of Greeting Messages (200)

This setting determines a time period within which the caller can record a greeting message.

Mailbox Language (201)

This setting lets you select the language to be used for the mailboxes.

Maximum number of auto-configurable mailboxes (202)

This setting determines the number of mailboxes that can be configured by the user. No other settings need to be configured for the auto-configurable mailboxes. If the number of mailboxes allowed is exceeded, it will not be possible to configure settings correctly when using the EVM.

If mailboxes have already been configured using the HiPath 1100 Manager, fewer mailboxes will be available for auto-configuration. For example, if there are 12 mailboxes and 10 have been configured through the HiPath 1100 Manager, only 2 boxes will be available for configuration by the user.

Mailboxes Assignments (203)

When Attendants are used for MSNs, this feature assigns mailboxes to user's extension slots or EVM virtual ports.

Mailbox Password (204)

This setting allows you to create a password for a specific mailbox. The default password is "1234".

Mailbox Recording Activation (205)

This setting allows you to record a greeting or a message to be played by the EVM.

Type of Mailbox Greeting (206)

This setting defines the type of greeting to be used for a specific mailbox when "Mailbox Greeting Configuration" is configured as "Manual" (Option 1, Code 207).

Mailbox Greeting Configuration (207)

This option determines the type of greeting to be used for a specific mailbox.

For the "Manual" option, the Type of Greeting selected (1 or 2) must be the same as in the "Mailbox Greeting Configuration" (Code 206).

The following settings are available for the "Day/Night" option:

Greeting 1 - Day Service

Greeting 2 - Night Service

Message Source (208)

This setting assigns a message to one of the two EVM ports. Alternatively, the message can be assigned to a MSN.

Message Mode (209)

This setting specifies whether a message will be played only once or repeatedly.

Message for MSN (210)

This setting specifies whether a message will be played for a specific MSN.

System Number (211)

This setting displays the number for the HiPath 1100 when the system is operating in a Point-to-Point (PP environment.

System Number Type (212)

This setting specifies how a MSN configuration must be sent.

Type of Voice Mail (214)

This setting specifies the type of voice mail to be used by the system.

Voice Mail Group (215)

This setting specifies the UCD group to be used by the system.

Mailbox Assignment for Auto-Answering Mode (216)

This setting assigns auto-answering to mailboxes.

Audio Quality (228)

This setting specifies the audio quality for playing back greetings and messages.

Message/Greeting for an External Analog Line (230)

This specifies whether a message/greeting should be played for an external analog line.

7.2.13 Digital trunk settings

The HiPath 1100 systems can be equipped with digital trunks by means of a S_0 module (/ISDN access) and a TME1 (E1 CAS/S2 access).

TME1 Module

E1 CAS Access:

E1 CAS access allows the system to use Caller ID and direct dialing to extensions, reducing the number of lost calls and simplifying access for the user. The HiPath 1150 and the HiPath 1 can be equipped with one TME1 module (configured for up to 15 standard channels or 20 expanded channels). The HiPath 1190 can be equipped with two TME1 modules.

When only E1 digital lines are used, you only need to program the External Number Registration. Country Code and Area Code can be left blank.

Access S2:

Provides connection to ISDN through primary access (30-channel) with capacity for using all services offered by the network. The HiPath 1150 can be equipped with one TME1 module (configured for up to 1 channels). The HiPath 1190 can be equipped with two TME1 modules (one configured for up to 30 channels and the second one for up to 15 channels).

When the total number of digital trunks configured for the module plus the number of external analog lines exceed the maximum capacity of the system, the external analog lines for the EB 202, 206 and 210 expansion modules are disabled. The extensions, however, will continue to work as usual. Lines are disabled in the order that they are physically installed (1, 2, etc.). This process continues until the total number equals the required number of external lines. The remaining modules continue operating as usual.

However, in the case of the EB 200, 400 and 800 modules, it is strongly recommended that you change their slots to prevent their deactivation. These modules become inoperable if any one of their external line slots is disabled.

To determine how many analog and how many digital lines will be available on your system, see Tabela 2-2 na página 2-7.

S_0 module:

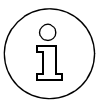
Each ISDN access provides two communication channels (64K each) as well a capability for sharing applications such as video conferencing and Internet access. Depending on your carrier, some features may be provided, including Caller ID, Caller ID Blocking, Direct Dialing to Extensions and so on. The HiPath 1120 can be equipped with a 2-port module; the HiPath 1150 with a 2-port module or one 5-port module; and the HiPath 1190 with two 2- or 5-port modules.

When only ISDN digital lines are being used, the following functions must be configured: DID, External Number Registration, Area Code, Country Code.

MSN Automatic Internal Distribution

This features allows you to assign different MSN numbers for each S_0 interface (the number of S_0 interfaces varies depending on the type of S_0 module. MSN numbers must be configured using the Manager tool (see Help file on Manager application).

ISDN telephones can be configured for any of the MSN numbers assigned to a S_0 interface. The configuration must be carried out manually on each telephone set. The maximum number of MSNs allowed varies depending on the specific telephone model.



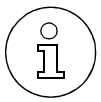
On the Gigaset SX255 you can assign many MSN numbers for each telephone using the Manager tool. However, each set stores only the first 10 MSN numbers. For more information on configuration and programming procedures for the Gigaset SX255 refer to the Gigaset SX255 User's Manual (A31008-X255-B100-X-XX19).

Automatic MSN Assignment via Local Carrier

This is a subscription service enabled by a local carrier. When this facility is enabled external line MSNs can be automatically registered.

On the Manager tool, when the Browse button is pressed(Basic -> MSN -> Settings -> Browse Button. For more information refer to the Help file), a message is sent to the local carrier requesting the MSNs. Once the carrier receives the message it replies sending the MSNs which are then automatically entered into the system.

In order for all MSN numbers to be entered the remote seizure mode must be configured as PMP (Point-to-Multipoint) and the system number must not have been specified in the Manager tool (Advanced->System Settings ->Country/Language Settings). If the operating mode is PP (Point to Point) only the system number will be registered. You must configure MSN numbers (Basic->MSN->Settings). Any MSN number previously configured must be deleted.



Automatic MSN Assignment facility provided by a local carrier only works if you also subscribe to Call Forwarding on the public network.

S_0 Ports (HiPath 1190) (062)

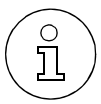
This setting specifies the operating mode for the S0 module maximizing the system's port usage.

This option is best for the HiPath 1190 due to its high port capacity. The goal is to obtain a maximum number of extensions/external lines allowed in relation to the following port detection rules:

External line and extension (default): Each port will decrease the number of external line slots by 2 and extension slots by 1. The connection may be PP, PMP or S0 Bus line (see item Operation Mode");

External line only: Each port will decrease the number of external line slots by 2. The connection must be PP or PMP. If it has been previously configured as a S0 Bus line, the connection will automatically be reversed to PP (which is the default).

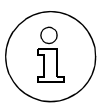
Extension only: Each port will decrease the number of extension slots by 1. The connection must be a S0 Bus line. If it has been previously configured as PP or PMP, the connection will be automatically reversed to S_0 Bus line.



After completing the configuration, the system must be restarted.

S_0 Line Operation Mode (190)

This setting specifies the type of connection, either Point-to-Point, Point-to-Multipoint, or S_0 Bus) between the S_0 module and the local carrier's lines.



With the HiPath 1120, the S_0 module's first port can only be a trunk, PP or PMP. It cannot be programmed as an S_0 bus.

With other switches, the first port may also be configured as a S_0 Bus.

Symmetric/Asymmetric Call (074)

This setting configures the system for symmetric or asymmetric calls.

Check with your local carrier to know which operating mode should be configured for your system.

No ACK Setup for S_0 Line (075)

Check with your local carrier to know which operating mode should be configured for your system.

Notify (076)

Check with your local carrier to know which operating mode should be configured for your system.

Automatic Keypad (077)

Your local carrier can inform you which ISDN features can be controlled by code in your country.

This feature allows you to activate the appropriate ISDN function at the terminal, without the need for external access.

Assigning a Digital Line to a MSN (078)

This features allows you to assign the MSNs provided by your local carrier to calls made over digital lines.

External Line Prefix (189)

This setting specifies the prefix for the PABX external lines, for domestic and international calls. By default, the type of a programmed called is not specified.

External Number Registration (191)

To use the Attendant feature each external number must be registered to a specific slot.

If the prefix (Code 089) for these numbers has already been configured, only the final digits need to be registered.

By default, no digits are specified.

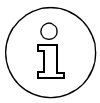
Assigning MSNs to Attendants (192)

MSNs registered for each slot (see "MSN Extension Assignment for Outgoing External Calls (086)") must be assigned to extensions. Day Service/Night Service Call Groups and Second Attendants must be assigned to extensions. Call Groups or an EVM virtual port (see "Mailboxes Assignments (203)") that will answer calls during specified time periods.

An extension. Group or EVM virtual port cannot be assigned more than once. A distinctive tone on the handset indicates an invalid entry.

Busy Signaling (004)

This signals the caller that the line is busy, when the system receives an incoming call and the attendant extension is busy.



This feature is valid only for digital lines with an attendant number. It is not valid if more than one extension is configured for the slot/DID number/MSN. If the Fax/DID module is installed and configured for digital lines, this feature will also be invalid.

Local Area Code Filter (011)

This allows the system to send the Area Code (LAC) to a destination exchange over a digital line. This enables Caller ID.

Country Area Code Filter (012)

This allows the system to send the Country Code (CAC) to a destination exchange over a digital line. This enables Caller ID.

Call Deflection (229)

When this feature is available and provided by a local carrier, an incoming call to an extension enabled with Call Forwarding (*11) is routed directly to an external destination over the public network. Alternatively, the HiPath 1100 system can be used.

ISDN Layer 1(101)

Allows you to change some default ISDN settings for specified countries.

ISDN Layer 2(102)

Allows you to change some default ISDN settings for specified countries.

B Channel (103)

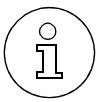
Allows you to change some default ISDN settings for specified countries.

TME1 capacity for HiPath 1150 (100)

This setting allows you to increase the number of ports for the TME1 module from 15 (default) to 20.

7.2.14 ADSL Module

This provides connection for network PCs for sharing ADSL access, without requiring a splitter, modem, additional ADSL, hub or network cards in any of the PCs.
The PCs are connected to the HiPath 1100 which provides (via LAN) the same functions provided by the V.24 serial interface for integrating the HiPath 1100 Manager, Interaction Center Smart and billing applications.
To configure the ADSL module correctly you need information about the VPI/VCI protocols, DNS servers, user name and password used by the carrier.
All the PCs must have a network card installed and must be on the same network as the ADSL module used as a gateway for accessing the Internet.



When using an ADSL module, do not connect the V.24 serial interface adapter cable to the PABX. All data is delivered through the network.

Restore ADSL Module Default Settings (013)

This code restores the default configuration of the ADSL module assuming an IP of 10.0.0.1.

7.2.15 Relay and sensor on the HiPath 1120

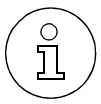
You can connect a Music module to the HiPath 1120 system. This module also provides a Relay and a Sensor for integrating other devices such as an Entrance Telephone, a Door Opener etc.

Sensor:
When the state of a sensor changes (for example, when the sensor changes from an open contact to a closed contact), the following functions can be executed:

- Selection of a number in the Speed Dial Directory (Phonebook)
- Activation of a relay
- Dialing a number from the Speed Dial directory and activating a relay.

The activation logic based on the initial position of the sensor contacts as well as its resulting actions are programmable.

Relay:
The relay can be activated via the sensor, assuming that the sensor is configured. It can be activated manually or automatically after a specified time. When the relay is activated, the contacts close. When it is deactivated, the contacts open.



The name assigned to this position may have up to 15 characters.

Sensor Function Configuration (170)

Allows you to select a function for the sensor:

- Deactivate the sensor's function (default)
- Dial the number specified in "Number Dialed by Sensor Activation" (Code 052).
- Activate the relay through the sensor
- Detect DTMF code. When this setting is selected, the number that was called must acknowledge or ignore an alarm call by sending an acknowledgement code ("#" DTMF signal)

Sensor Activation Logic (174)

The main position of the sensor can be set as follows: contacts are closed and the sensor is activated when the contacts are open; or contacts are open and the sensor is activated when the contacts are closed.

Time between Attempts for Activating the Sensor (050)

This setting specifies a timeout after which a new attempt is made to call an internal or external number, assuming that the line was busy on the previous attempt.

MSN Assignment for the Sensor (051)

This settings specifies an MSN for the system. This MSN will be used for outgoing calls. By using this MSN the called party is able to identify the origin of the call. For instance, this would be the case for an alarm.

Number Dialed by Sensor Activation (052)

This setting specifies the number to be automatically dialed when a specific sensor is activated. The number to be dialed when the sensor is activated is stored in the System Speed Dial. When the number stored in the System Speed Dial is changed, this field is updated. Similarly, when the number in the field is changed, the change is reflected in the System Speed Dial.

Number of Attempts for Activating the Sensor (053)

This setting specifies the number of call attempts (between 1 and 100) for the number specified in "**Number Dialed by Sensor Activation**". (See also **Time between Attempts for Activating the Sensor**).

An attempt is made after every call that was not answered (busy signal), or when the "Detect DTMF Code" option (Code 70, Option 3) is enabled and no acknowledgment is received. When this occurs, the call is disconnected and a new attempt is made.

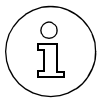
Relay (175)

This setting specifies the operating mode for the relay:

- "Switch" The relay can only be turned on from an extension by entering the proper feature code (see Miscellaneous Functions - Relay in the User Manual).
- "Monoflop": The relay is closed for a specified length of time. Alternatively, the relay can also be opened before the set time by entering the proper feature code (see Miscellaneous Functions - Relay in the User Manual).
- "Invert": The current state of the Relay is reversed when the feature code for activating it is selected at an extension.
- "Music on Hold" The Relay can be used for activating external equipment connected for playing messages/music.
- "External signal" For an analog extension, a second ring can be enabled/disabled using the relay.

Timer for Deactivating the Relay (173)

Specifies the length of time that the relay must remain closed.



If the closing time is set to "000," the relay will remain active until it is manually deactivated.

External Ring for Activating the Relay (071)

This setting lets you use the relay to set a second signal (e.g., a ring) for a specified analog extension.

Sensor Message (213)

After assigning a number, you can assign a message to the sensor. This message will be transmitted to the assigned number when the sensor state is changed.

8 Feature Access Codes

The HiPath 1100 has a Numbering Plan that can be programmed using the HiPath 1100 Manager or by entering codes on the telephone keypad.

8.1 Numbering Plan

Description	HiPath 1120	HiPath 1150	HiPath 1190
External Line	801 to 806	801 to 822	801 to 845
Extension, including S_0	11 to 30	11 to 60 610 to 645	101 to 240
Group of external lines	0 or 890 to 899		
Call Group (CG)	770 to 779		
Hunt Group (HG)	780 to 789		
CD Subscriber Group	790 to 799		
Carrier	9		
EVM - Default internal number	790		
EVM - Message Ports	7491 and 7492		
EVM - Virtual Ports	744 to 747		
Fax/DID - Virtual Message Ports	740 to 743		
USB/CAPI line	10		100
* and # Key substitution	75 and 76 respectively		

8.2 Symbols

Symbols	Explanation
8 8, #, …	Enter numbers, keys, password, internal or external numbers, etc.
♪	Signaling with a short beep
/	Lift/Replace the handset
	Initiate conversation
X and Y	Numeric variables
Service Menu	Service Menu
	Programmable key is ON
	Programmable key deleted
	Blinking Programmable Key
and	Navigation keys

8.3 Feature

System Telephone features can be selected as follows:

1. Using the **Navigation keys**in the Main Menu
2. **Using the** Feature key then browsing the feature option list
3. Using the **Feature key** and its associated **Feature Code**;
4. **Using a** programmable key

Feature	**Code**
System Telephone Features	
Accessing your Mailbox	Mailbox Keyprogrammed as MWI
Call Charge Consultation	* 6 5
Call Forwarding	Call Forwarding
Call Forwarding Deactivation	Call Forwarding

Feature	Code
Parking	Parking 0 to 9 slot
Parking Resuming a Call	Parking 0 to 9 slot
Caller List	# 8 2 list ◁ ▷ and ☑
Programming a Feature for a Key	* 9 1 Select a key ◁ ▷ feature to be programmed and ☑
Redial	Redial
speaker	Activate/deactivate speakerphone Speaker Activate/deactivate speaker Speaker
Checking Relay Status	* 9 4 1 4
Seizure of an External Line	
External Call	0 ⁞⁞
External Call by a Group of External Lines	X 9 8 ⁞⁞ external line ("X" is from 0 to 9)
Seizure of a Specific External Line	Y 8 X ⁞⁞ external line ("XY" is from: 01 to 45)
Internet Access Activation	* 4 9 3 ⁞⁞ external line
Internet Access Deactivation	# 4 9 3 ⁞⁞ external line

Feature	Code
External line reservation Busy	**1)** Wait for ♪ Phone rings external **or** **2)** Service Menu * 5 8 Phone rings external
Functions used when making calls	
System Speed Dial	* 7 + 0 0 0 ... 2 4 9
Individual Speed Dial	* 7 + * X ("X" is from 0 to 4)
Individual Speed Dialing Programming	* 9 2 + * X CHANGE? ☑ number SAVE? ☑ wait for ♪ ("X" is from 0 to 4)
Speakerphone Auto-Answering Mode Activation	* 9 6 wait for ♪
Speakerphone Auto-Answering Mode Deactivation	# 9 6 wait for ♪
Direct Communication Call	* 8 0 extension with a system telephone wait for ♪ record your message
Internal Call	extension
Calling a Call Group (CG)	7 7 0 ... 7 7 9
Calling a Hunt Group (HG)	7 8 0 ... 7 8 9
Calling a UCD Subscriber Group	7 9 0 ... 7 9 9
Urgent Call (busy extension)	**1)** (busy) Wait for ♪ **or** **2)** (busy) Service Menu * 5 8

Feature	Code
Hotline (if programmed)	
Warmline (If programmed)	Wait
Override Busy extension	busy extension Service Menu * 6 2
Silent Monitoring (busy extension)	* 9 4 4 busy extension
Callback Activation (Extension does not answer or is busy)	**1°)** No answer CHANGE? or * 5 8 Wait. Phone rings **or** **2**) Wait for Wait. The telephone rings.
Callback Deactivation	# 5 8
Carrier	9
Using a Temporary MSN to make a Call	* 4 1 MSN slot or MSN number external line external number
Functions used during Calls	
Cost Code	* 6 0 cost code # number
Conference	Consultation number Service Menu * 3
Consultation (To end a consultation wait for the call to be disconnected)	Consultation
Parking	Service Menu * 5 6 + X ("X" is from 0 to 9)

Feature	Code
Recovering a Parked Call	# 5 6 + X ("X" is from 0 to 9)
Toggle (Use after Consultation for answering a second call or an urgent call)	Service Menu * 2
Suffix Dialing	data
Recovering a Call on Hold	Service Menu * 0 (if busy or no answer)
Transfer (when an alternate analog line operates with "Polarity Reversal. or an external digital line is being used wait for the call to be answered. for the Transfer. Otherwise, there is no need to wait for an answer in the case of a transfer call without consultation)	**Internal:** extension **External:** TRANSFER? number
Functions used when receiving calls	
Accessing your Mailbox	Voice Mail Group
Answering a Call On Hold	Service Menu * 5 5 or Service Menu * 2 or CALL WTNG?
Group Pickup	* 5 7 **or** CALL PCKP GRP?
Individual Pickup	* 5 9 extension
Call Forwarding on an analog line:	

Feature	Code
Call Forwarding to External Number	✱ 1 1 external line ☑
Internal Call Forwarding	✱ 1 1 extension, Voicemail Group or Call Group ☑
Call Forwarding Deactivation	# 1 1
Call Forwarding - No Answer Activating	✱ 1 4 extension, Voicemail Group or Call Group ☑
Call Forwarding - No Answer Deactivating	# 1 4
Do Not Disturb Activation	✱ 9 7
Do Not Disturb Deactivation	# 9 7
EVM:	
Consultation at the extension being used	7 9 0 VM Group password
Consultation from another extension	7 9 0 VM Group password extension
Consultation from an external extension	your external number + ✱ password extension
Miscellaneous Functions	
Door Opener (After answer by the Entrance Telephone)	Service Menu ✱ 6 1
General Alarm Deactivating	# 9 4 1 4 password
Electronic Lock password change	✱ 9 3 current password new password confirm new password
Electronic Lock Activation	✱ 6 6 password
Electronic Lock Deactivation	# 6 6 password

Feature	Code
Busy signal when extension is busy Activation	* 9 4 1 1 ☑
Busy signal when extension is busy Deactivation	# 9 4 1 1
System Programming Mode Activation	* 9 5 ⠿ password ⠿ codes
Deactivating a Feature (Call Forwarding, Do Not Disturb, Data Protection, Alarm Clock, Call-back and Speakerphone Auto-Answering Mode)	# 0
Language Configuration/Country	* 9 4 1 2 ⠿ country code
Call Group (CG) and Hunt Group (HG) Login	* 8 5 ⠿ group (if belonging to more than one group)
Call Group (CG) and Hunt Group (HG) Logout	# 8 5 ⠿ group (if belonging to more than one group)
Room Monitor (Babyphone)	* 8 8
Music on Hold Activation	* 9 4 1 0 music
Music on Hold Deactivation	# 9 4 1 0
Remote Configuration HiPath 1100 Manager	* 9 9 2

Feature	Code
Remote configuration using a standard MF telephone	**1)** Programming extension must have a conversation in progress with the remote programmer: ✱ 9 9 1 ♪ ☎ The remote programmer must provide: ▦password▦ programming codes **or** **2)** Remote programmer dials the system and is answered by a FAX/DID facility: ✱ 9 5 ▦ password ▦ programming codes
Data Protection Activation	✱ 4 9 0
Data Protection Deactivation	# 4 9 0
Relay Activation (For **HiPath 1120** only)	✱ 9 0
Relay Deactivation (For **HiPath 1120** only)	# 9 0
Night Service Activation	✱ 4 4 ▦ password
Night Service Deactivation	# 4 4 ▦ password
Call Waiting tone - Activation	☎ # 8 7 ♪ ☎
Call Waiting tone - Deactivation	☎ ✱ 8 7 ♪ ☎
COS (Class of Service) Changeover	✱ 5 0 8 ▦ extension ▦ password
Alarm Clock	
Alarm Clock (Daily)	✱ 4 6 1 ▦ time (e.g., 1230)☑
Alarm Clock (Daily, except weekends)	✱ 4 6 2 ▦ time (e.g., 1230)☑

Feature	Code
Alarm Clock (After a specified time)	* 4 6 3 ⠿ time (e.g., 1230) ☑
Alarm clock (For a specified date and time)	* 4 6 4 ⠿ date/time (e.g., 24121830) ☑
Alarm clock Deactivating	# 4 6 ☑
UCD Subscriber Group Functions	
Agent available	* 4 0 2
Agent unavailable	# 4 0 2
Calling a UCD Subscriber Group	7 9 X ("X" is from 0 to 9)
Logging into a UCD Subscriber Group	* 4 0 1 ⠿ group (if belonging to more than one group)
Logging out of a UCD Subscriber Group	# 4 0 1
UCD Agent in Service	* 4 0 3
UCD Agent Out of Service	# 4 0 3
Satellite PABX	
Flash on External Analog Line	Service Menu * 5 1
Operation as Satellite PABX	8 9 X ⠿ line # ("X" is from 0 to 9)
Special functions for ISDN lines	
Immediate Call Forwarding for MSN Activation	* 6 4 1 ⠿ external ♪ ⠿ MSN
Immediate Call Forwarding for MSN Deactivation	# 6 4 1 ♪
Call Forwarding - No Answer, for MSN Activating	* 6 4 2 ⠿ external ♪ ⠿ MSN

Feature	Code
Call Forwarding - No Answer, for MSN Deactivation	# 6 4 2 ♪
Call Forwarding for MSN when the line is busy Activation	* 6 4 3 ⁞⁞ external ♪ ⁞⁞ MSN
Call Forwarding - Busy, for MSN Deactivation	# 6 4 3 ♪
Anonymous Caller ID (Trace)	Service Menu * 8 4
Restriction for Sending MSN - Activation	* 8 6
Sending Restriction for MSN - Deactivation	# 8 6
Using Features provided by a Carrier on ISDN Lines	* 5 0 3 ⁞⁞ external line ⁞⁞ ISDN code

Note:
Feature Codes can be changed in the HiPath 1100 Manager. An expert should be consulted in this case.

9 Abbreviations

General list

This list presents the abbreviations used in this manual.

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The information in this document provides only general descriptions of the features. The actual features may not correspond exactly to the descriptions herein and, furthermore, they are subject to changes to the extent that products continue to be developed.
The selection of features to be provided is not binding unless explicitly established in the terms of the contract.
All trademarks mentioned herein belong to Siemens AG or to their respective owners.

CE This device complies with EU Directive 1999/5/EG, as attested by the CE Mark.

This device is manufactured according to Siemens's Certified System for Environmental Management (ISO 14001). This process ensures that energy and raw material consumption, as well as emissions produced from industrial waste, are kept to a minimum.

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