



SIEMENS

Global network of innovation

HiPath 1100

HiPath 1120

HiPath 1150

HiPath 1190

Service Manual

HiPath 1100

Models

HiPath 1120/1150/1190

Service Manual

Selo CE



The device conforms to the EU directive 1999/5/EG, as attested by the CE mark.

Certificado Ambiental



This device has been manufactured in accordance with our certified environmental management system (ISO 14001). This process minimises energy consumption, the use of primary raw materials and waste production.

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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.



Electricity



Weight



Heat



Fire



Chemicals



ESD*



Laser

*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.

Important Information

Safety Information

- 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 2-36 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.

Batteries

Batteries that are not correctly installed or batteries replaced with a different type than the one specified can be an explosion hazard. Replace battery with an identical type of battery or use a type recommended by Technical Support. Dispose of used batteries according to your countries laws and regulations.

Important Information

Safety Information

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 2-38 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.

Important Information

Data Protection and Confidentiality

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	2-24
Configurations	2-25
System Periphery	2-26
System expansion limitations	2-28
Technical Data	2-36
Technical Standards and Compliance	2-37
Documentation List	2-39

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).



Warning

However, in both cases the shields for extensions and external lines must have a separate ground connection ($\leq 10 \Omega$)

These 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,” item 2.7.2).

2.3 Configurations HiPath 1100

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

- **HiPath 1120:** Wallmount, standard configuration for 2 external lines, 8 extensions and 4 system telephone interfaces (KS).
- **HiPath 1150:** Wallmount, standard configuration for 2 external lines, 10 extensions and 8 system telephone interfaces (KS).
- **The HiPath 1190 comes in two versions:**
 - **HiPath 1190:** with external cabinet accommodating up to 21 modules (expansion and optional) comprising the MB, 2 backplanes, 3 power supplies (UPS).
 - **HiPath 1190R:** with rack-mounting cabinet on a standard 19" rack, can accommodate up to 21 modules (expansion and optional) in addition to the CPU, comprising the MB, 2 backplanes, 3 power supplies (UPS).



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

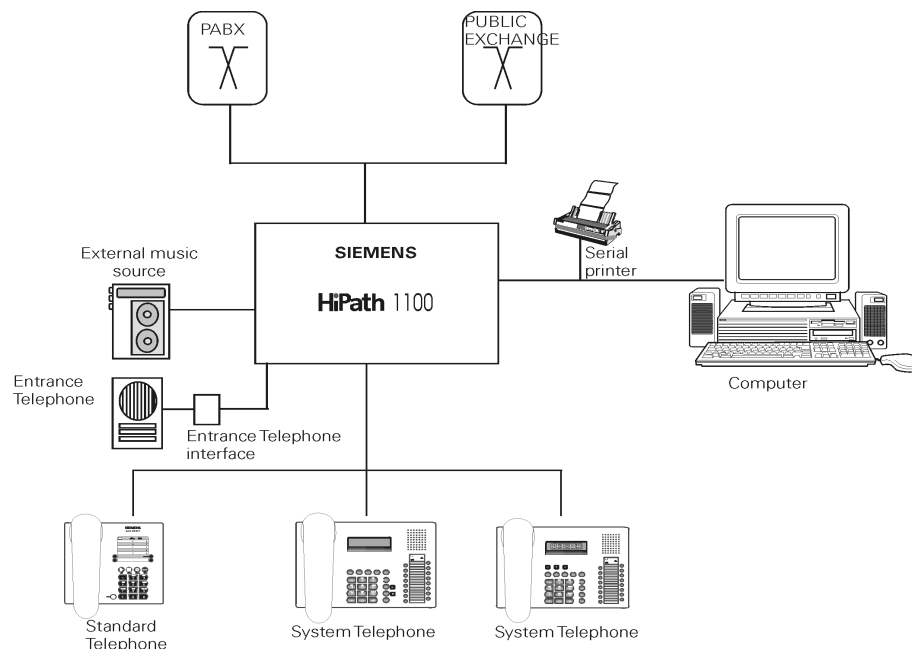


Figure 2-1 System Overview

2.4 HiPath 1100 System Periphery

- HiPath 1120

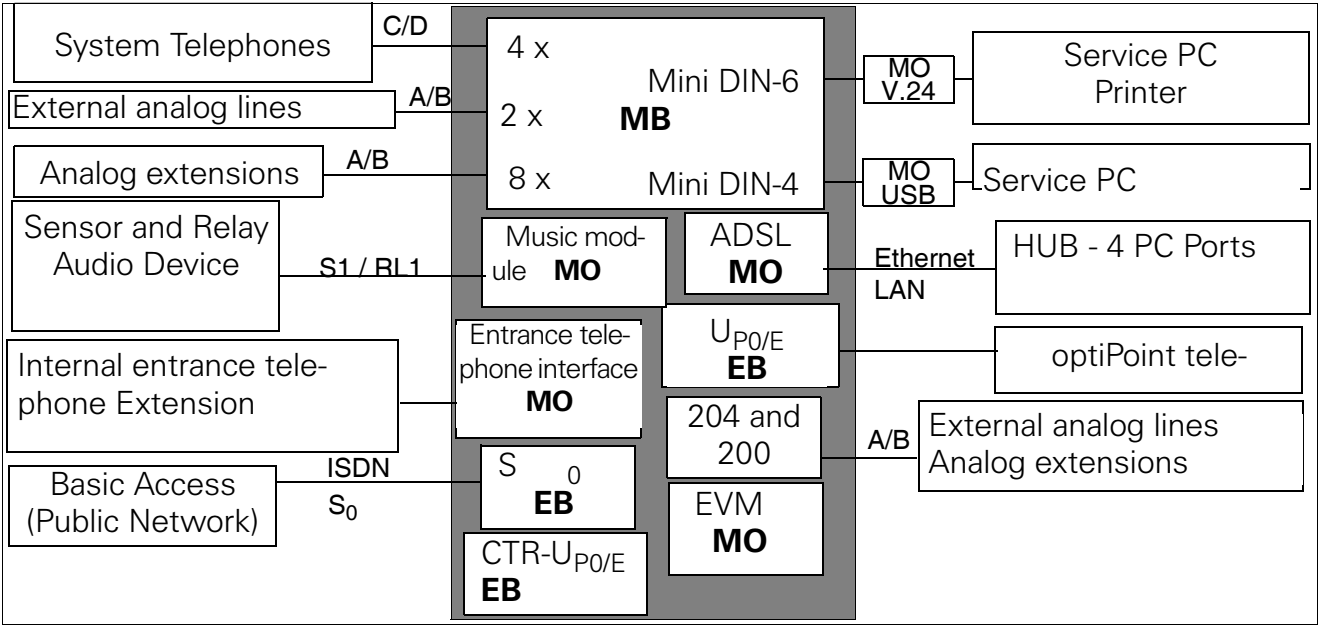


Figure 2-2 HiPath 1120 Periphery

- HiPath 1150

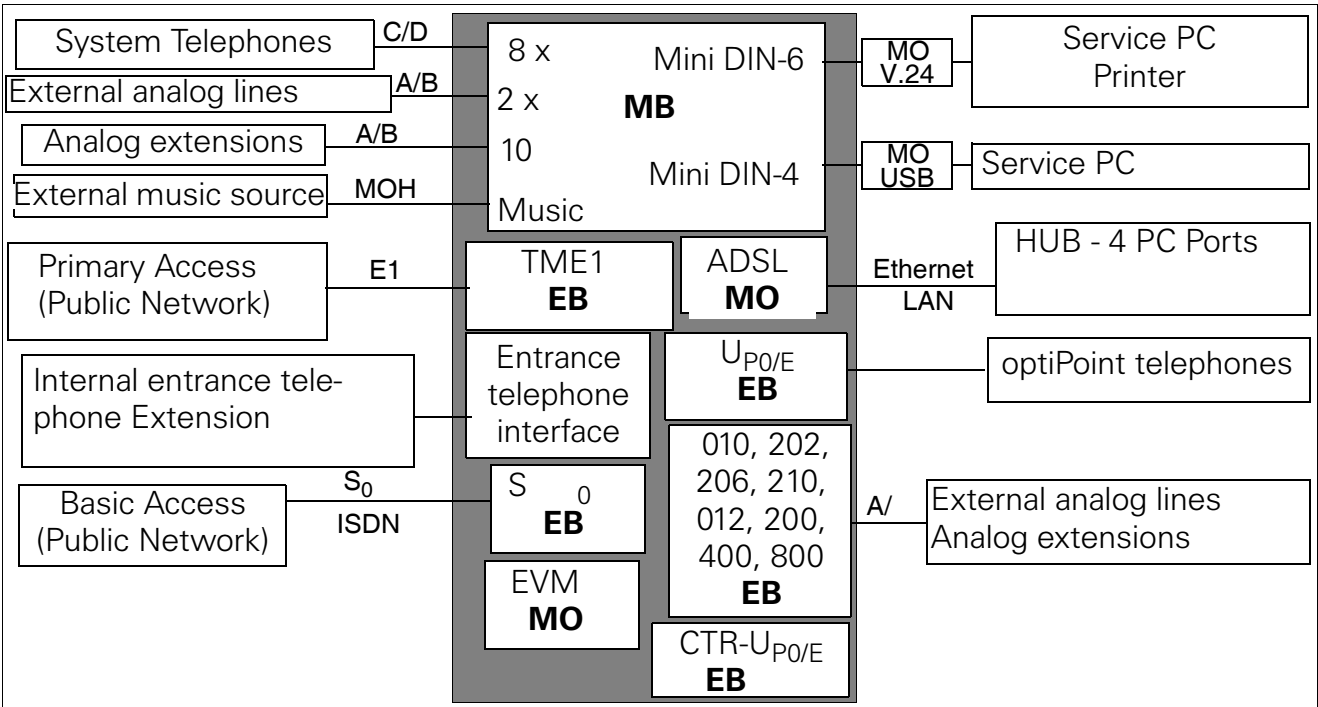


Figure 2-3 HiPath 1150 Periphery

● HiPath 1190

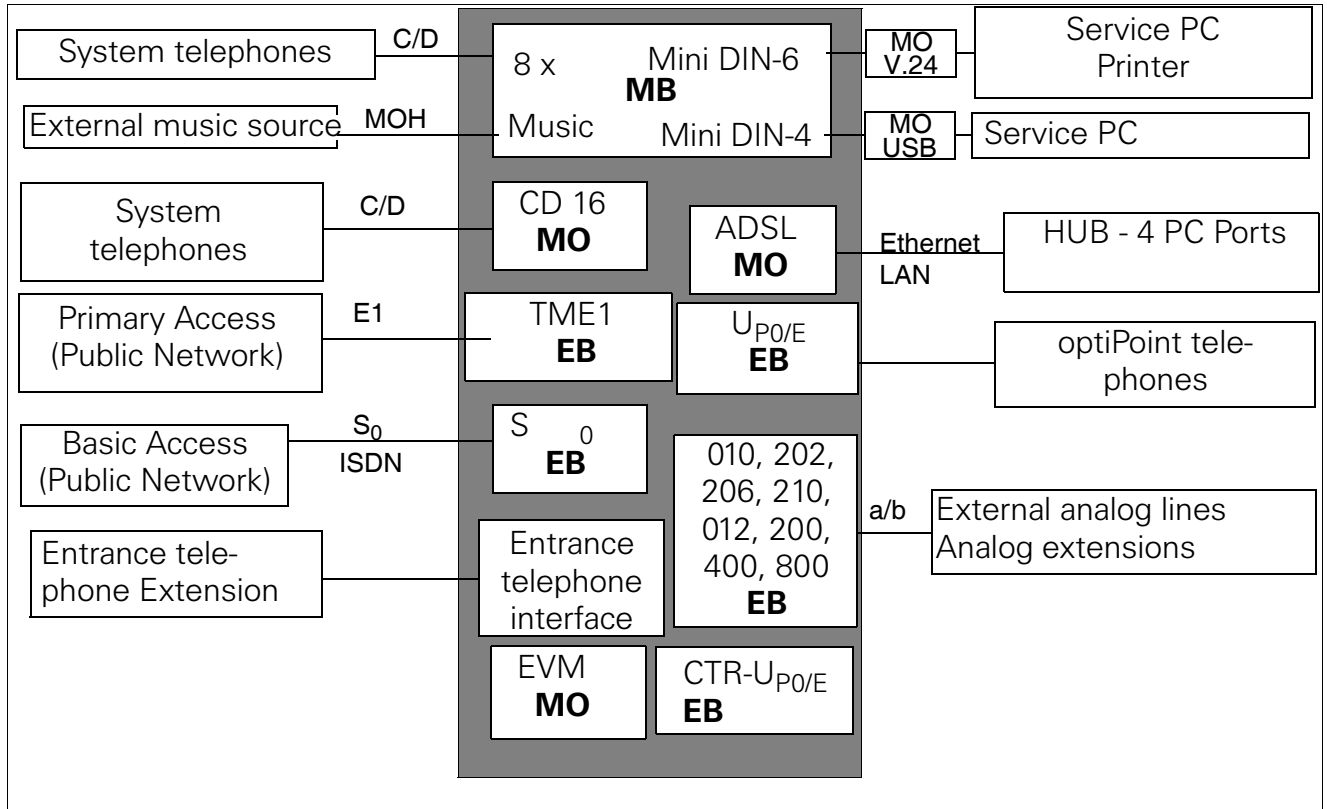


Figure 2-4 HiPath 1190 Periphery

System Data

System expansion limitations

2.5 System expansion limitations

During system installation (see “Installing modules” on page 4-136) please consider characteristics, recommendations and limitations of the modules that will comprise the final set. We therefore recommend that you read this chapter carefully, where you will find the maximum capacities of each module and how it interacts with the other components.

Basic configuration:	HiPath 1120	HiPath 1150	HiPath 1190
External analog lines	2		0
Analog extensions	8	10	
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	10
EB 800 (8 external lines)	0	1	5
S ₀ module	1		2
TME1 module	0	1	2
U _{P0/E} module (optiPoint):	1	1 or 2 (see “CTR-UP0/E module” on page 3-77)	
CD 16 module (KS)	0		1
Optional modules:**			
LAN interface modules (ADSL, SLIMC, SADSLIM, LIMC or ADSLIM)	1		
EVM module	1		
Music module	1	on board	
TFE entrance telephone interface	20		
Total System Capacity:***:			

Extension (analog + digital)	23	89	143
System Telephones (KS + optiPoint) (see "CTR-UP0/E module" on page 3-77)	4 KS or 8 optiPoint (4 master + 4 slave)	8 KS + 16 optiPoint (8 master + 8 slave)	8 KS + 16 optiPoint (8 master + 8 slave) or 24 KS (CD 16 module)
Digital line with TME1/Digital line with S ₀	0/2	30/10	45/20
External analog lines without TME1 or S ₀ modules	6	16	40
Digital line (TME1) + analog line/digital line (S ₀) + analog line	0/8	32/16	45/44

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

** S₀ and TME1 modules cannot be used simultaneously.

LAN and TME1 interface modules can be used simultaneously in HiPath 1150/1190.

- HiPath 1120 : ADSL modules, SLIMC and SADSLIM module

- HiPath 1150/1190 : ADSL modules, SLIMC and SADSLIM module

*** When the maximum capacity for external lines is exceeded due to the installation of EB, S₀ or TME1 modules, the system disables external analog lines. Extension slots, however, continue to operate as usual.

Example 1: HiPath 1150

- slot 0, MB 210,

- slot 1, EB 210,

- slot 3 TME1 - 30 digital lines

EB 210 external lines will not work, but extensions will. Since the system allows for a maximum number of 32 lines, we cannot have any additional analog line.

Example 2: HiPath 1150

- slot 0, MB 210

- slot 3 TME1 = 30 digital lines

In this case, there are 32 external lines at most available on the system. This means there is no room for an additional EB module with an external analog line.

30 CAS/S2 digital lines + 2 MB external analog lines = 32 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 digital lines

(WARNING: Deactivate digital line for the TME1 module and program unused digital lines on the switch as unavailable (turn the switch off then on).

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 additional EB 400 could be used in slot 1 or slot 2.

If an EB 800 were 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

2.5.1 Considerations for digital lines

HiPath 1120

Maximum number of external lines allowed is 16 (S0 digital lines + external analog lines)

Settings	External analog line	S0 module digital line	Total
MB + 1 EB 200	4	0	4
MB + 1 S0-2	2	4	6
MB + 1 S0-2 + 1 EB 200	4	4	8

Table 2-2 Considerations on S0 digital lines on the HiPath 1120

HiPath 1150

Maximum number of external lines allowed is 16 (S0 digital lines + external analog lines)

Settings	External analog line	S0 module digital line	Total
MB + 1 EB 800	10	0	10
MB + 1 EB 800 + 1 EB 400 + 1 EB 200	16	0	16
MB + 1 S0-2	2	4	6
MB + 1 S0-2 + 1 EB 800 + 1 EB 200	12	4	16
MB + 1 S0-5	2	10	12
MB + 1 S0-5 + 1 EB 400	6	10	16

Table 2-3 Considerations on S0 digital lines on the HiPath 1150

Capacity can be increased up to 32 external lines using a TME1 module (30 digital lines + 2 analog lines). In this case, an S0 module cannot be used. If 15 (or more) TME1 module channels are occupied, then only 2 MB external analog lines may be used (e.g., 20 TME1 module digital lines + 2 MB external analog lines).

Settings	External analog line	Digital line (maximum depending on the number of analog lines)	Total
MB + 1 TME1	2	30	32
MB + 1 TME1 + 1 EB 200	4	13	17
MB + 1 TME1 + 1 EB 400	6	11	17
MB + 1 TME1 + 1 EB 800	10	7	17
MB + 1 TME1 + 1 EB 800 + 1 EB 200	12	5	17
MB + 1 TME1 + 1 EB 800 + 1 EB 400	14	3	17

Table 2-4 Considerations on TME1 digital lines on the HiPath 1150

HiPath 1190

Maximum number of external lines allowed is 45 (digital lines and/or external analog lines).
Maximum number of external analog lines is 40.

For example, the following configurations are available.

Configuration 1: 40 analog lines + 5 digital lines

Configuration 2: 8 analog lines + 37 digital lines

Configuration 3: 0 analog lines + 45 digital lines

Settings	External analog line	Digital line (depending on the number of analog lines)	Total
1 TME1	0	30	30
2 TME1	0	45	45
1 TME1 + 1 EB 200	2	30	32
2 TME1 + 1 EB 200	2	43	45
1 TME1 + 1 EB 400	4	30	34
2 TME1 + 1 EB 400	4	41	45

System Data

System expansion limitations

1 TME1 + 1 EB 800	8	30	38
2 TME1 + 1 EB 800	8	37	45
1 TME1 + 1 EB 800 + 1 EB 200	10	30	40
2 TME1 + 1 EB 800 + 1 EB 200	10	35	45
1 TME1 + 1 EB 800 + 1 EB 400	12	30	42
2 TME1 + 1 EB 800 + 1 EB 400	12	33	45
1 TME1 + 2 EB 800	16	29	45
2 TME1 + 2 EB 800	16	29	45
1 TME1 + 2 EB 800 + 1 EB 200	18	27	45
2 TME1 + 2 EB 800 + 1 EB 200	18	27	45
1 TME1 + 2 EB 800 + 1 EB 400	20	25	45
2 TME1 + 2 EB 800 + 1 EB 400	20	25	45
1 TME1 + 3 EB 800	24	21	45
2 TME1 + 3 EB 800	24	21	45
1 TME1 + 3 EB 800 + 1 EB 200	26	19	45
2 TME1 + 3 EB 800 + 1 EB 200	26	19	45
1 TME1 + 3 EB 800 + 1 EB 400	28	17	45
2 TME1 + 3 EB 800 + 1 EB 400	28	17	45
1 TME1 + 4 EB 800	32	13	45
2 TME1 + 4 EB 800	32	13	45
1 TME1 + 5 EB 800	40	5	45
2 TME1 + 5 EB 800	40	5	45
1 TME1 + 10 EB 400	40	5	45
2 TME1 + 10 EB 400	40	5	45

Table 2-5 Considerations on TME1 digital lines on the HiPath 1190

2.5.2 Considerations on system telephones

HiPath 1120

The table below shows the settings available for KS phones and optiPoint using U_{P0/E} MODULES:

Master/Slave/KS		
None	U _{P0/E} (2 Ports)	U _{P0/E} (4 Ports)
0/0/4	2/2/2	4/4/2

Table 2-6 optiPoint and KS telephones for HiPath 1120.

Limitations:

The limit for KS telephones operating with optiPoint telephones in the system is 2 (KS).

HiPath 1150/1190

The table below shows the settings available for KS with optiPoint using U_{P0/E} MODULES:

	Master/Slave/KS			
	None	U _{P0/E} (2 Ports)	U _{P0/E} (4 Ports)	U _{P0/E} (8 Ports)
None	0/0/8	2/2/8	4/4/8	8/8/8
U _{P0/E} (2 Ports)	2/2/8	4/4/8	6/6/8	2/2/8
U _{P0/E} (4 Ports)	4/4/8	6/6/8	8/8/8	4/4/8
U _{P0/E} (8 Ports)	8/8/8	8/8/8	8/8/8	8/8/8

Table 2-7 optiPoint and KS telephones for HiPath1150/1190/1190R.

Limitations:

If an 8-port U_{P0/E} module is installed, the system will not free up another U_{P0/E} module in the system. Both the HiPath 1150 and the HiPath 1190 allow a maximum of 8 U_{P0/E} ports, resulting in 16 optiPoint telephones (master + slave) + 8 KS telephones, for a total limit of 24 system telephones. Therefore, only combinations of U_{P0/E} modules are possible for a maximum of 8 ports.

2.5.3 Notes on HiPath 1150

If there are only 2 PCM highways in the HiPath 1150 and one module TME1 is used, we would have 30 timeslots reserved and a further 2 timeslots reserved for the analog trunks, which would mean fewer than 32 timeslots free for all the other extensions of the system. To avoid this limitation, the solution was to use an additional highway based on the DSP control for slots 3 and 4.

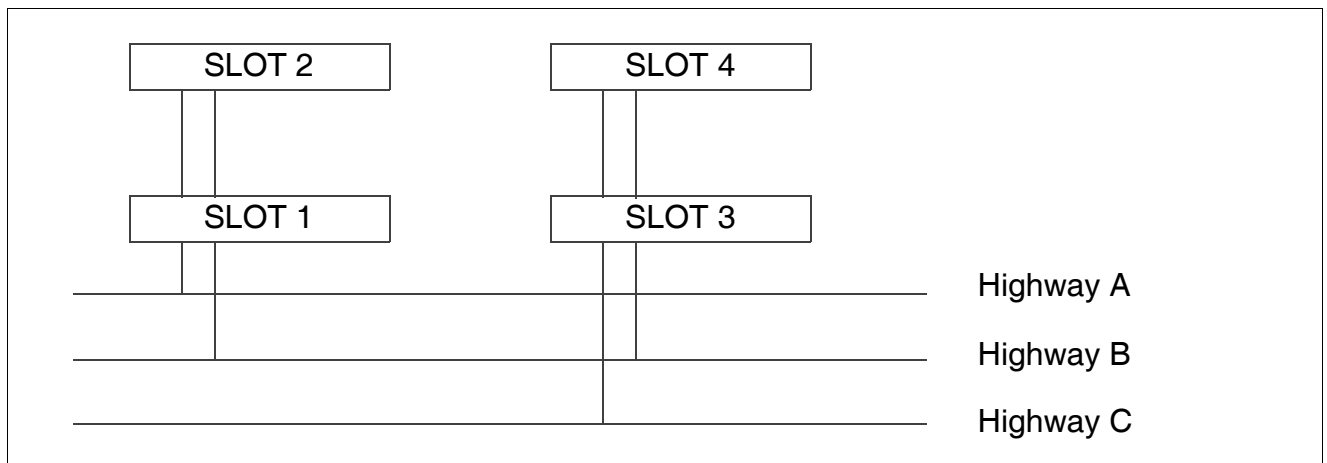


Figure 2-5 Distribution of the highways in the HiPath 1150

System Data

System expansion limitations

PCMs are first allocated by connecting a codec in a channel and then letting the DSP transfer this channel to another. The codec can only be connected in 2 highways, and so to interlink the codecs with the third highway (c) it is necessary to proceed as with the first highway. The highway (A) will not be used in this case.

The HiPath 1150 works with the dynamic allocation of timeslots during system start-up except for some fixed resources, such as: EVM.

2.5.4 Notes on HiPath 1190

- The HiPath 1190 single rack system supports up to 80 extensions
- TME 1 module
This must only be mounted in slots 1 and 11. The system must therefore have both racks mounted in order to run two modules.
Within the maximum limit of 40 external analog lines or 45 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	The 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	The module configuration for extensions or external lines must not exceed 32 ports.
8, 9 and 10	The 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 be left Free).
15, 16 and 17	The module configuration for extensions or external lines must not exceed 32 ports.
18, 19 and 20	The module configuration for extensions or external lines must not exceed 32 ports.

Table 2-8 Examples of system configurations HiPath 1190



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, totaling 24 ports. For Highway 1 (slots 1 and 2), when a TME1 module is placed in slot 1 (totaling 30 ports), slot 2 must remain free (except for a LAN interface module, which can be installed in slot 2).

Table 2-9 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 2-9 Distribution of modules on the HiPath 1190 backplanes

System Data

Technical Data

2.6 Technical Data

Element	HiPath 1120	HiPath 1150	HiPath 1190
Standard Cabinet Size			
Length	360 mm (14.17")	470 mm (18.50")	420 mm (16.53")
Depth	288 mm (11.33")	14.17" (370 mm)	394 mm (15.51")
Height	64.4 mm (2.53")	100 mm (3.93")	498 mm (19.60")
Weight	1.2 kg (2.64 lb)	4.25 kg (2.64 lb)	22.5 kg (49.60 lb)
Electrical specifications for power supply units (PSUs)			
Power Requirements (Input)	220V / 127mA 127V / 331mA 110V / 381mA	110 - 230V, Full range / 1.5A	
Operating Frequency	50/60Hz	50/60Hz	
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} /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:			
Lower Group*	-11 dBm		
Higher Group*	-9 dBm		
Pre-Emphasis	2 dB		
Pulse Duration**	90ms min.		
Inter-digit pause**	90ms min.		
● DP (Dial Pulse):			
Pulse/Pause Ratio**	2:1 (approximately 70:30ms = 10 Hz)		
Inter-digit Pause**	800ms		

Element	HiPath 1120	HiPath 1150	HiPath 1190
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 2-10 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
Static electricity 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 2-11 Standards and compliance

System Data

Technical standards and compliance

2.7.1 International Safety Standard

- IEC 60950

2.7.2 Environmental conditions

	Operation	Transportation	Storage
Air Temperature (the ^F)	+41 to +86	-13 to +158	41 to +113
Relative humidity	5% to 85 %	95%	5% to 95%

Table 2-12 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: 7.5°C (45.5°F)/30 min)
- Do not expose the equipment to direct sunlight or place it near 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
Programming manual - DTMF telephones	A31003-K1270-U100-*-*19
User Manual - optiPoint 500 system telephone - Adv, Std, Basic and Econ	A31003-K1270-U101-*-*19
User Manual - Profiset 3030 and E822 ST system telephones	A31003-K1270-U102-*-*19
User Manual - DTMF telephones and Pulse telephones	A31003-K1270-U103-*-*19
User Manual - optiPoint 500 system telephone - Entry	A31003-K1270-U104-*-*19
Quick Reference Guide - DTMF telephones and Pulse telephones	A31003-K1270-U105-*-*19
Quick Reference Guide - optiPoint 500 system telephone - Entry	A31003-K1270-U106-*-*19
Quick Reference Guide - optiPoint 500 system telephone - Adv, Std, Basic and Econ	A31003-K1270-U107-*-*19
Quick Reference Guide - Profiset 3030 and E822ST system telephones	A31003-K1270-U108-*-*19
Attendant Console - optiPoint 500 system telephone - Adv, Std, Basic, Econ and Entry	A31003-K1270-U109-*-*19
Attendant Console - Profiset 3030 and E822 ST system telephones	A31003-K1270-U110-*-*19
Service Manual	A31003-K1270-S100-*-*20
Manager	A31003-K1270-M100-*-*A9
Options (Brazil)	
Interaction Center Smart User Manual	A30808-X5226-E175-*-*7618
TAC Smart Quick Reference Guide	A30808-X5226-V103-*-*7619

Table 2-13 Documentation list for HiPath 1100

3 Modules

3.1 Overview

About this Chapter

This chapter covers the following topics:

Topic	Page
Abbreviations for Country names	3-41
List of modules	3-41
Modules/components	
• Motherboard (MB)	3-47
• Expansion modules (EB)	3-55
• S0 module	3-63
• TME1 module	3-67
• UP0/E module and CTR UP0/E module	3-75
Optional modules	
• LAN interface modules	3-78
• EVM module	3-86
• CD 16 module	3-88
• Music module	3-89
General modules/components	
• Power Supply Unit (PSU)	3-91
• Main Distribution Frame	3-98
• Backplane	3-99
• Internal entrance telephone with TFE interface	3-101
• V.24 Adapter Cable	3-111
• USB adapter cable	3-114
• TME1 Serial Cable	3-115
• Adapter cable for analog modem	3-116
• TME1 Coax Cable	3-118
• Battery interconnect cables (BBU)	3-120

3.2 Abbreviations for Country names

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

Table 3-1 Abbreviations for Country names:

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-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-A497-* (RSA)

Modules

List of modules

Module / component	Reference
Expansion module	
EB 204	S30817-H844-A401-* (IM) S30817-H844-A464-* (IND) S30817-H844-A497-* (RSA)
EB 200	S30817-H844-B401-* (IM) 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-*
Optional modules (MO)	
EVM module	S30807-Q6945-X-*
ADSL module	S30817-H842-A301-* (IM)
SLIMC module	S30817-H866-A401-* (IM)
SADSLIM module	S30817-H866-B401-* (IM)
Music module	S30817-H860-A301-* (IM)
Internal entrance telephone with TFE 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) 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) - with Ferrite	C39195-A7700-B6
Interconnect cable (flat cable) - without Ferrite	C39195-Z7001-C95

Module / component	Reference
Ferrite for C95 interconnect cable	C39022-Z7000-C15
Interconnect cable (flat cable)- U_{P0/E}	C39195-Z7001-C96
Additional power supply - U_{P0/E}	C39280-Z4-C71

*) Module/component version.

Table 3-2 List of modules/components - HiPath 1120

Note 1: See “Internal entrance telephone with TFE interface” on page 3-101
 TFE entrance telephone interface S30122-K7696-T313-* with an amplifier)
 TFE entrance telephone interface S30817-K930-A300-* without an amplifier)
 entrance telephone interface, Brazil, S30817-Q936-C282

List of modules/components - HiPath1150/1190/1190R

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)

Modules

List of modules

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-*
Optional modules (MO)	
ADSL module	S30817-H849-A282-*
LIMC module	S30817-H867-A401-* (IM)
ADSLIM module	S30817-H867-B401-* (IM)
EVM module	S30817-Q6945-X-*
CD 16 module	S30817-H0855-A282-*
Internal entrance telephone with TFE 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
Ferrite for power cable	C39022-Z7000-C7
Battery interconnect cable (BBU)	C39195-A7700-B11
Interconnect cable between batteries (BBU)	C39195-A7944-B49

Modules

List of modules

Module / component	Reference
Interconnect cable between PSU-batteries (BBU)	C39195-A7700-B9
Interconnect cable for HiPath 1190 power supply (BBU)	C39195-A7700-B10
Vshare cable for HiPath 1190 (BBU)	C39195-A7700-B8
Power Supply Unit (PSU)	
HiPath 1150	S30122-K7642-X10-* (IM, AUS and IND) S30122-K7642-X30-* (RSA) With BBU (Battery Backup Unit) S30817-U853-A400-* (B AUS) S30817-U853-B401-* (IM) S30817-U853-B464-* (IND)
HiPath 1190	S30122-K7642-X200-* (IM, AUS and IND) S30122-K7642-X300-* (RSA) Full with BBU (Battery Backup Unit) S30777-U770-E400-* (AUS) S30777-U770-E401-* (IM) S30777-U770-E464-* (IND) Medium with BBU (Battery Backup Unit) S30777-U770-F400-* (AUS) S30777-U770-F401-* (IM) S30777-U770-F464-* (IND)
HiPath 1190R	S30122-K7642-X200-* (IM, AUS and IND) S30122-K7642-X300-* (RSA) Full with BBU (Battery Backup Unit) S30777-U770-G400-* (AUS) S30777-U770-G401-* (IM) S30777-U770-G464-* (IND) Medium with BBU (Battery Backup Unit) S30777-U770-H400-* (AUS) S30777-U770-H401-* (IM) S30777-U770-H464-* (IND)
Expansion Kit with BBU (Battery Backup Unit)	
HiPath 1150 Power supply and cables	S30817-H853-B401-*
HiPath 1190/1190R Power supply and cables	Full S30777-H770-H410-*
	Medium S30777-H770-H420-*

Module / component	Reference
Backplane	
HiPath 1150	S30817-Q853-A401-*
HiPath 1190 (backplane 1)	S30817-Q854-A401-*
HiPath 1190 (backplane 2)	S30817-Q854-B401-*

Table 3-3 List of modules/components - HiPath1150/1190/1190R

Note 1: HiPath 1100 For further details on the system's total capacity see Table 2-1 on page 2-29 "Specific limitations to system expansion."

Note 2: See "Internal entrance telephone with TFE interface" on page 3-101

- TFE entrance telephone interface S30122-K7696-T313-*(with an amplifier)
- TFE entrance telephone interface S30817-K930-A300-*(without an amplifier)
- entrance telephone TFE 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)

Modules

Motherboard (MB)

- Digital switch
- Signaling
- Fax/DID.
- System's date and time.

Note

With backup power from a battery, date and time settings are not lost in the event of a power outage. Replace this battery with an identical type of battery or use a type recommended by Technical Support.



Caution

FAILURE TO REPLACE BATTERY WITH SPECIFIED BATTERY TYPE CAN CAUSE RISK OF EXPLOSION. DISPOSE OF USED BATTERIES ACCORDING TO YOUR COUNTRY'S LAWS AND REGULATIONS.

3.4.1 HiPath 1120



If the UP_{0/E} module is connected on the HiPath 1120 , only 2 CD interfaces will be available.

MB Interfaces

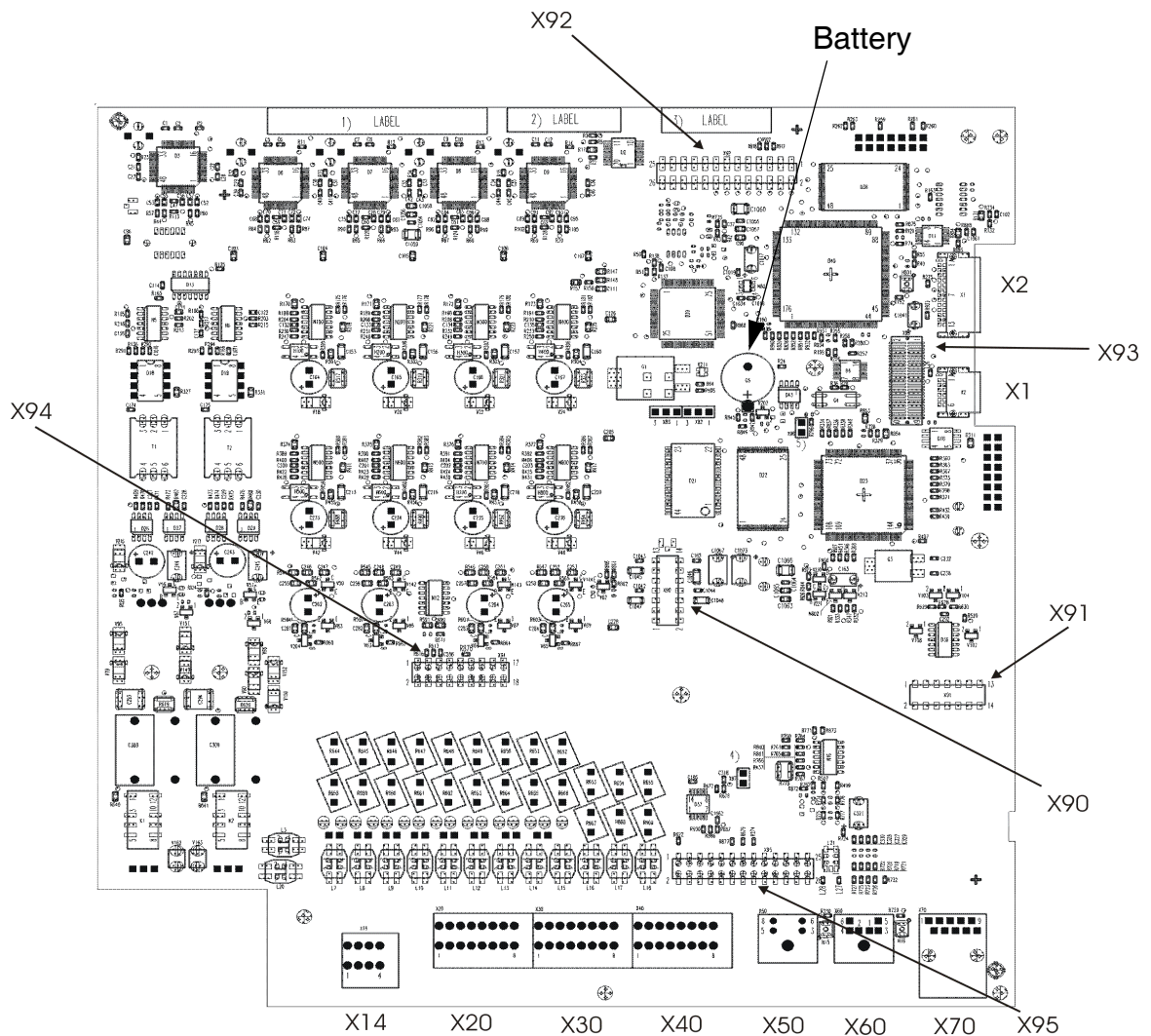


Figure 3-1 HiPath 1120's MB

Modules

Motherboard (MB)

Motherboard Connector assignments - HiPath 1120

Contact	X14 Connector	X20 Connector	X30 Connector	X40 Connector	Battery
1	a1 - trunk 1	a1 - extension 1	a5 - extension 5	C-interface 1	Supplies power for maintaining the system's date and time settings in the event of a power outage.
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 Connector	X92 Connector	X93 Connector	X94 Connector	X95 Connector
	For a VCC module	For an EVM module	CTR U _{P0/E}	For Music module	For LAN Interface module

Table 3-4 HiPath 1120 MB Connector assignments

Baby Board VCC module interface

This module is connected on the MB and is an AC/DC converter used in HiPath 1120 V6.0 and V7.0. Input voltages are 23V AC and the ring voltage, which depends on the country. Output voltages are: 3.3VDC, 5 VDC, 24VDC, 32VDC and the ring voltage added to the offset voltage.

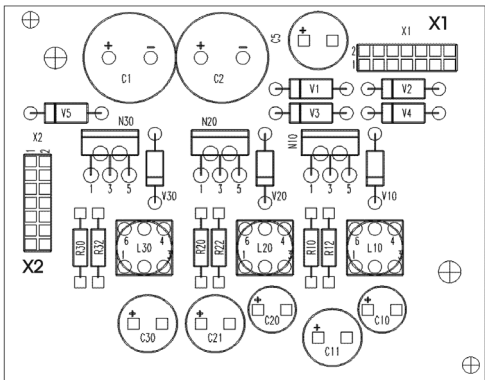


Figure 3-2 HiPath 1120 Baby Board VCC module

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

MB Interfaces

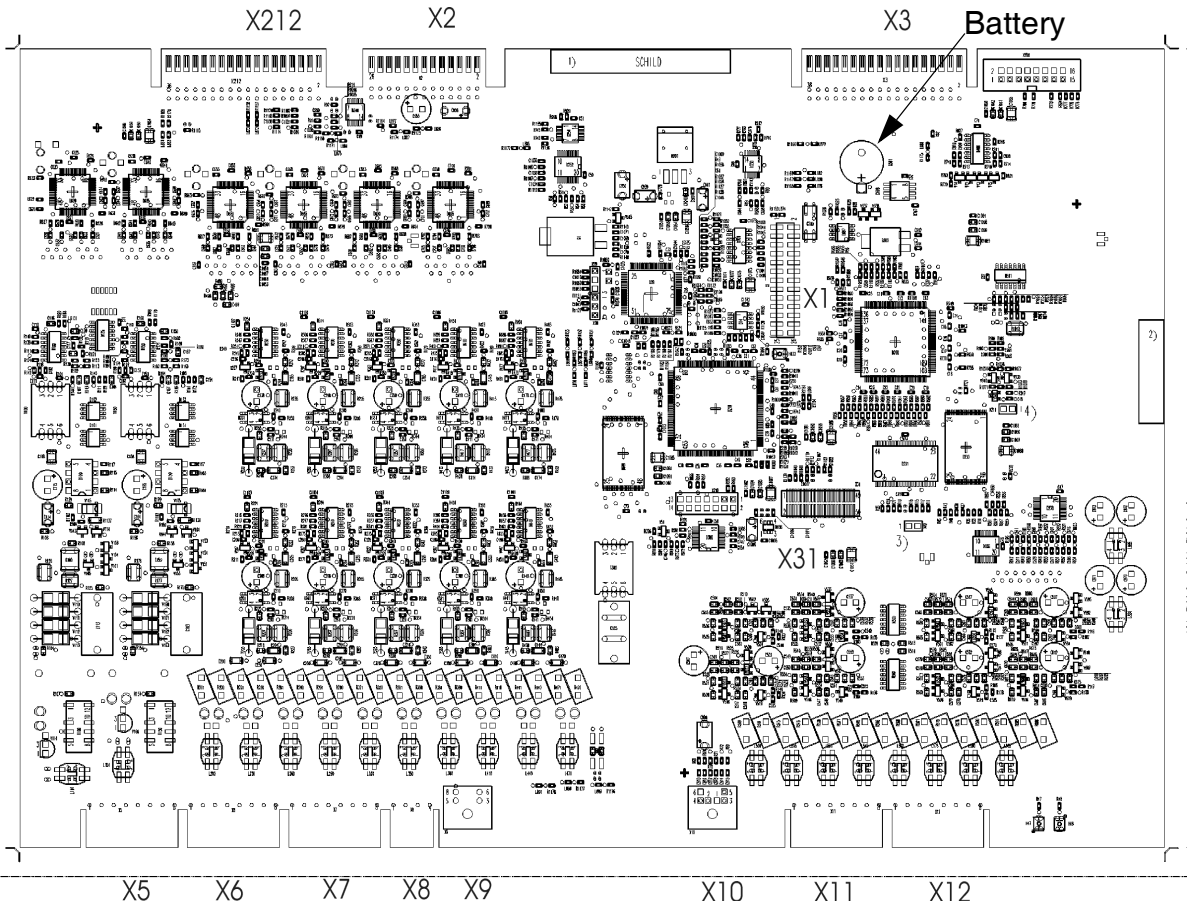


Figure 3-3 Overview of the HiPath 1150 MB

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
	Connector X212	Connector port	Connector port	Connector X1	Connector X9	Connector X10
	Backplane, slot 1 and 2	Power supply (PSU)	Backplane Slot 3 and 4	CTR-U _{P0/E} module	Interface USB	V.24 serial interface
	Connector X31	Battery				
	EVM module	Supplies power for maintaining the system's date and time settings in the event of a power outage.				

Table 3-6 HiPath 1150 Motherboard Connector assignments

3.4.3 HiPath 1190/1190R

MB Interfaces

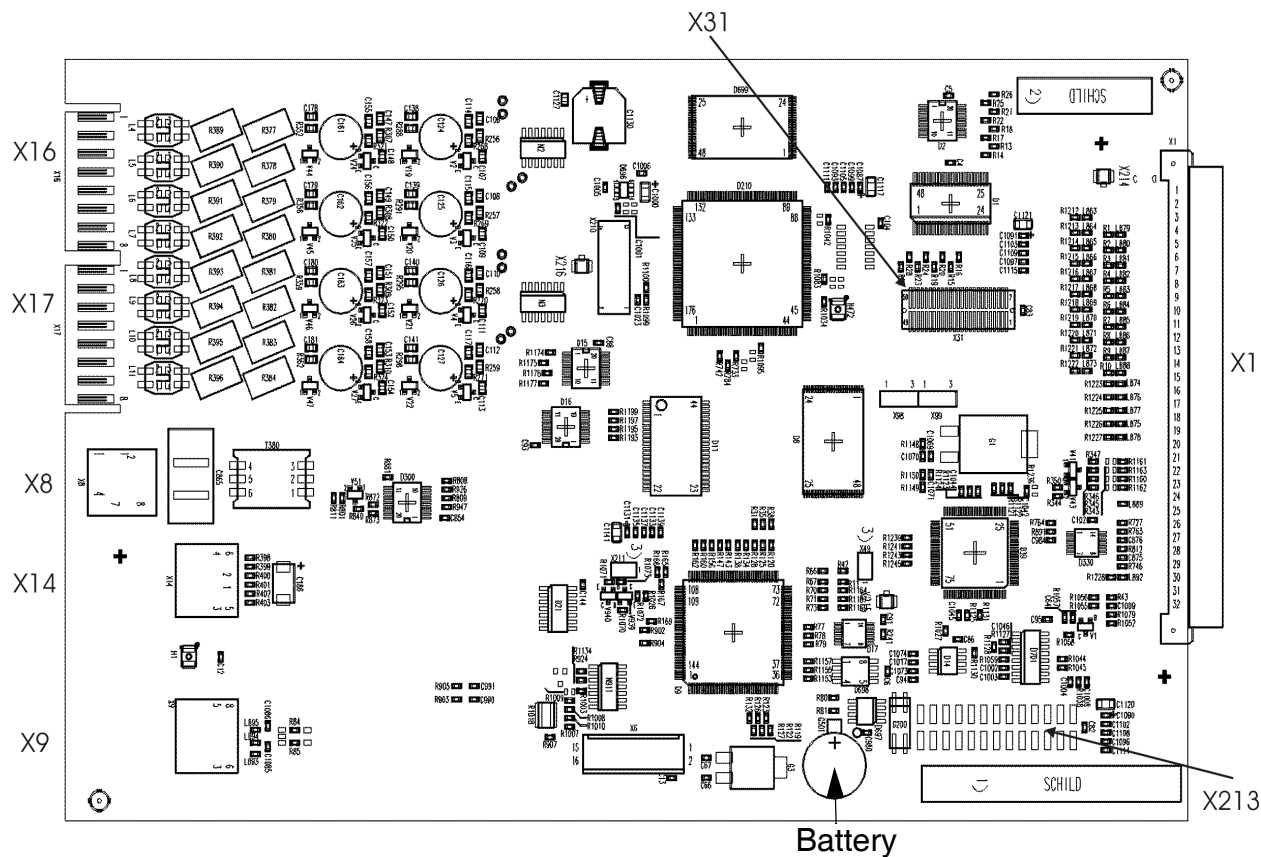


Figure 3-4 Overview of the HiPath 1190 MB

MB Connector assignments (HiPath 1190)

Contact	X16 Connector	X17 Connector	X8 Connector	Battery	
1	C-interface 1	C-interface 5	Music - A wire	Supplies power for maintaining the system's date and time settings in the event of a power outage.	
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-UP ₀ /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).

There are modules with only trunks, trunks and extensions and only extensions. For modules with trunks and extensions, **in the event of a power outage**, there is a circuit that switches the available trunks to their respective slots on the extensions.

3.5.1 HiPath 1120

Limitations

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

Modules
Expansion modules (EB)

EB 200 Expansion module

Interfaces

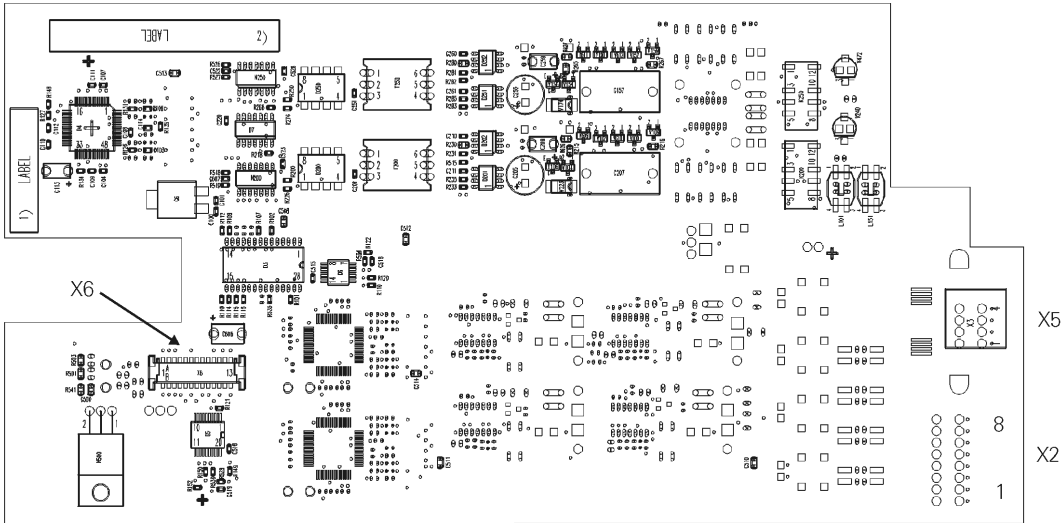


Figure 3-5 EB 200 module overview

Figure 3-5 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

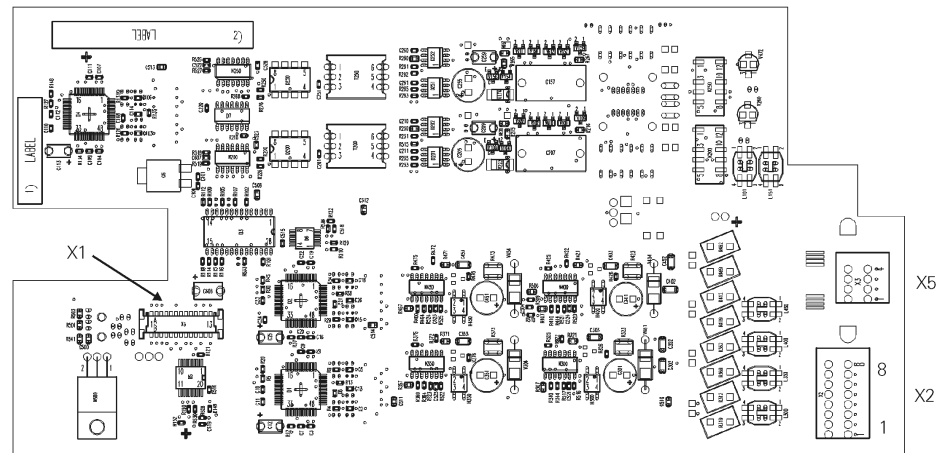


Figure 3-6 EB 204 module overview

Figure 3-6 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

Modules

Expansion modules (EB)

3.5.2 HiPath1150/1190/1190R

Limitations

- 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

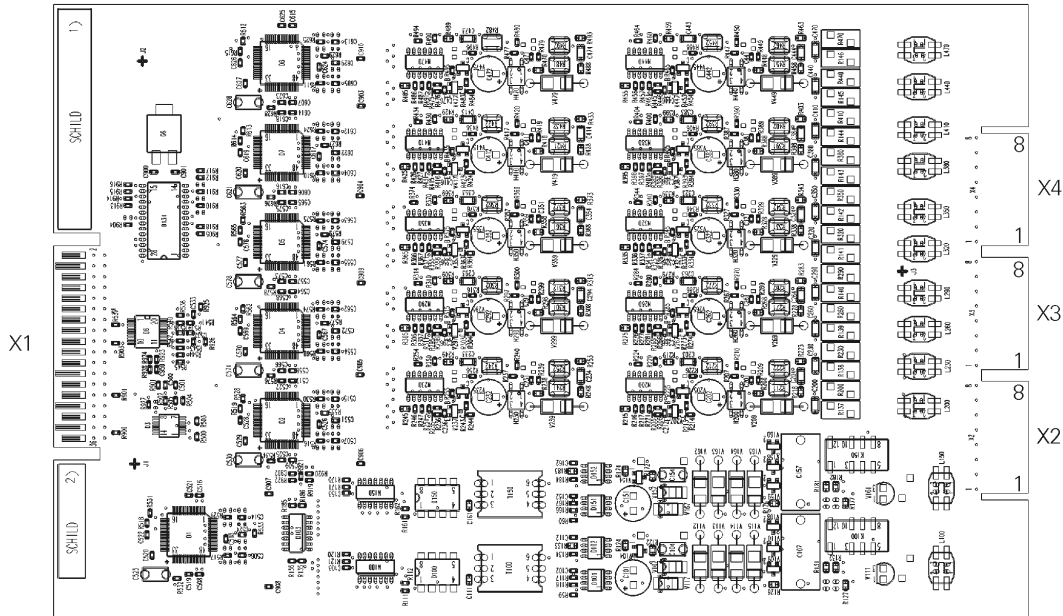


Figure 3-7 EB 210 module overview

Figure 3-7 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 3-10 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.

Modules
Expansion modules (EB)

EB 012 and EB 010 expansion modules

Interfaces

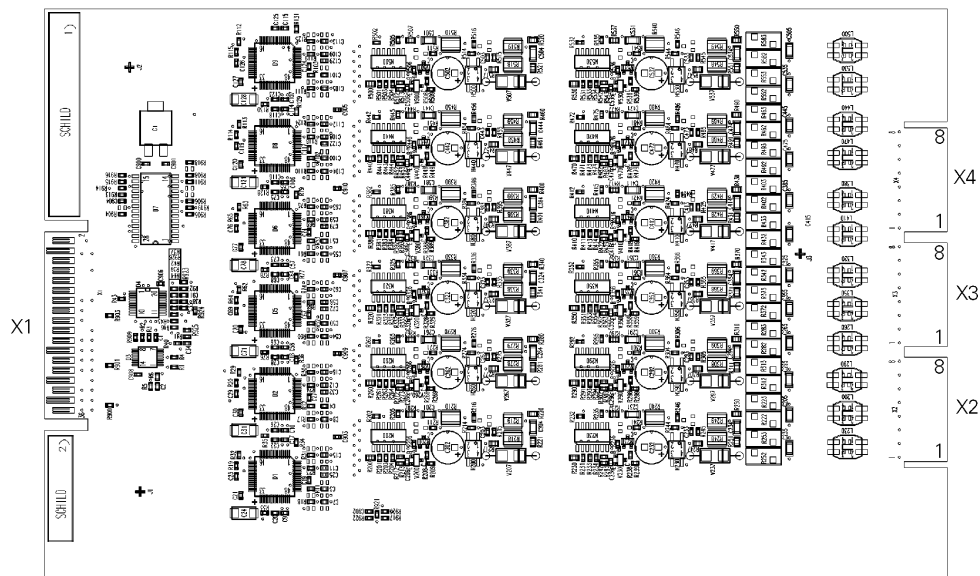


Figure 3-8 EB 012 module overview

Figure 3-8 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 3-11 EB 012 and EB 010 Connector assignments

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

Modules

Expansion modules (EB)

EB 800, EB 400 and EB 200 expansion modules

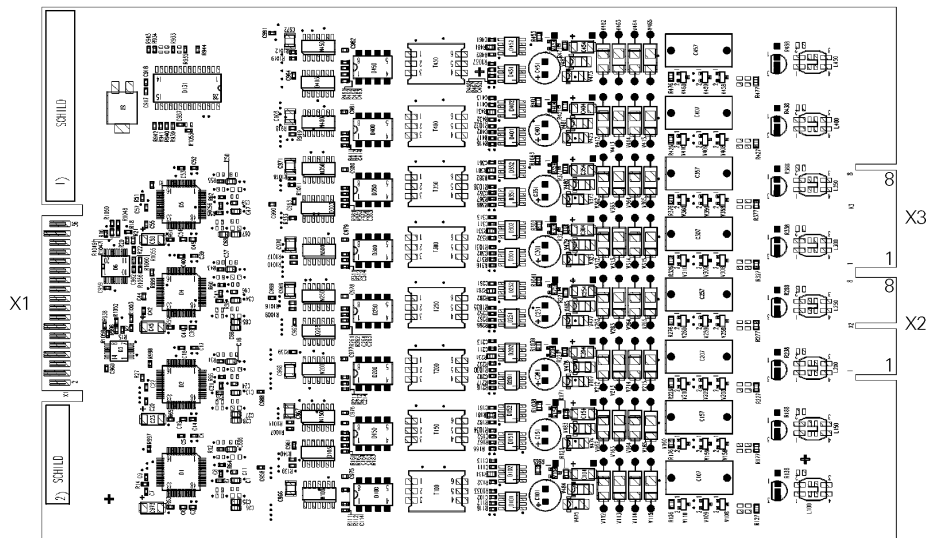


Figure 3-9 EB 800 module overview

Figure 3-9 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 3-12 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 S₀ module

Introduction

This module provides access to ISDN networks and network resources through 2/5 S₀ standard digital access channels (4 or 10).

Functions

- Each ISDN access provides 2 64 Kbits/s channels, which are used for communication
- Depending on whether your carrier has enabled them, some features such as Caller ID, Caller ID Blocking, Direct dialing to extensions and so on may be provided.

3.5.3.1 HiPath 1120

Interfaces

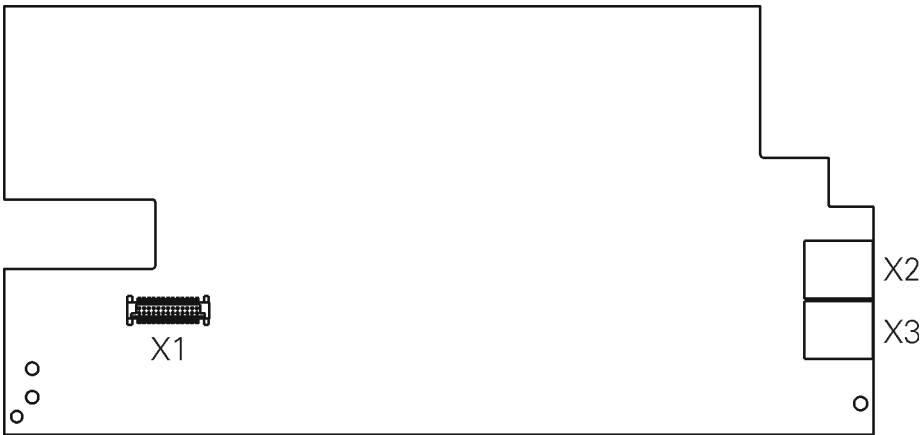


Figure 3-10 S₀ HiPath 1120 module

The Figure 3-10 features a 2-Port S₀ module, also available as a single-Port option.

Jumpers	
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 S ₀ -BUS)	

Table 3-13 HiPath 1120 S₀ module jumpers

Modules
Expansion modules (EB)

S₀ module Connector assignments

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

Table 3-14 S₀ module Connectors for HiPath 1120

3.5.3.2 HiPath1150/1190/1190R

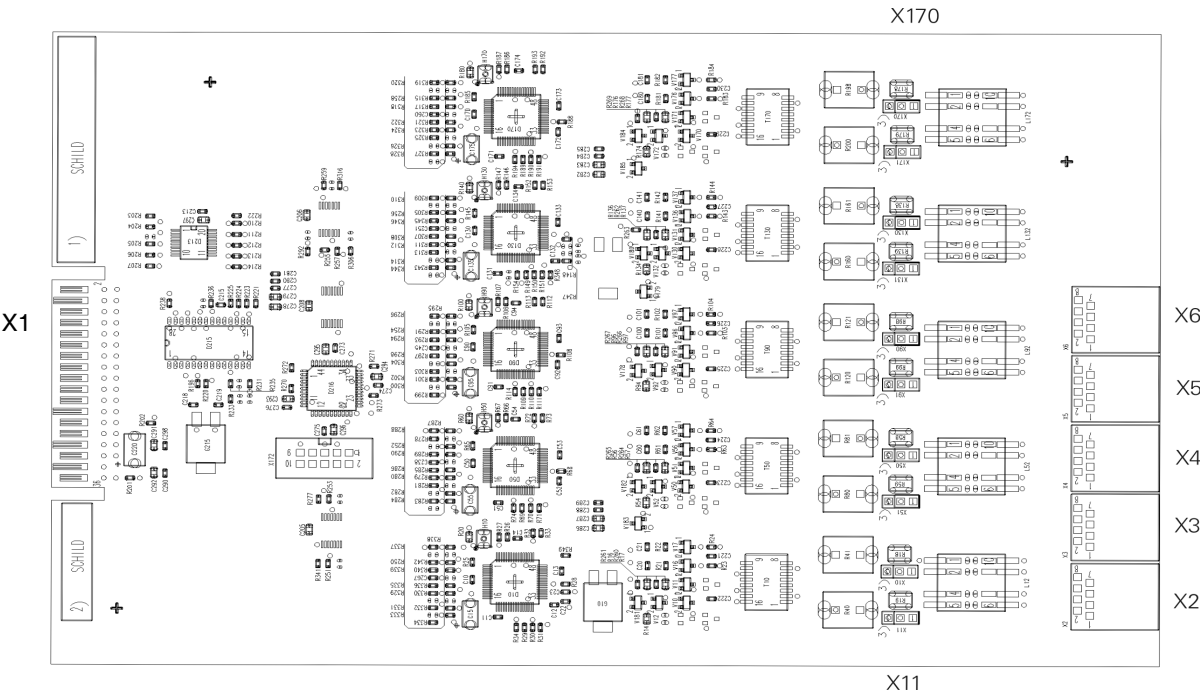


Figure 3-11 Module S₀ HiPath1150/1190/1190R

The Figure 3-11 features a 5-Port S₀, also available as a 2-Port option.

Jumpers				
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 RT (resistive termination used when the port is configured as S ₀ -BUS)				

Table 3-15 Module S₀ HiPath1150/1190/1190Rjumpers

Connector assignments

X1 Connector	Port 1 X2 Connector	Port 2 X3 Connector	Port 3 X4 Connector	Port 4 X5 Connector	Port 5 X6 Connector
Connection of the MB to the pin Connector	RJ 45	RJ 45	RJ 45	RJ 45	RJ 45

Table 3-16 S₀ module Connectors for HiPath1150/1190/1190R

Modules
Expansion modules (EB)

S₀ basic access

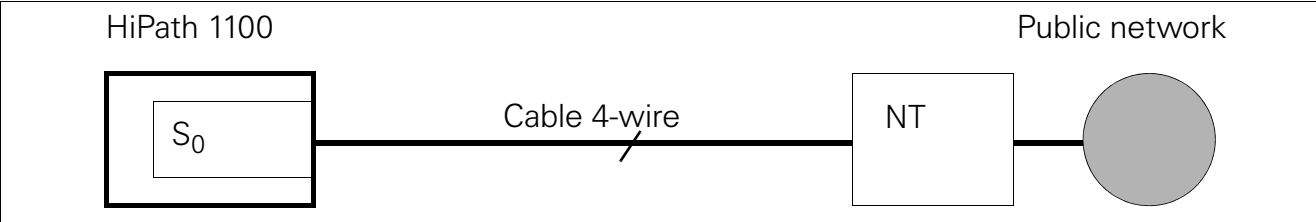


Figure 3-12 S₀ Basic access connection

S₀ module Connector

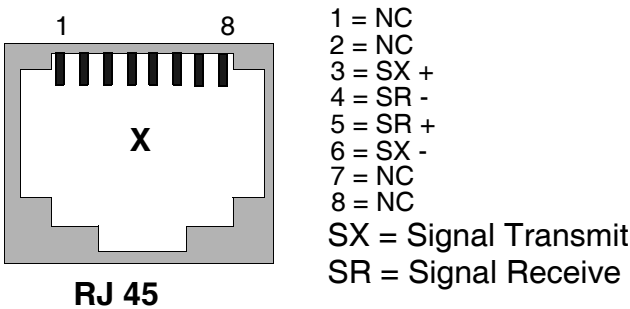


Figure 3-13 S₀ Connector signal distribution

Setup and Installation of S₀ module Connectors

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

Table 3-17 Installing an S₀ module

3.5.4 TME1 module

The TME1 module can be configured to operate with E1 CAS access or S2 access.



Warning

The TME1 module is factory configured to operate as a CAS interface.

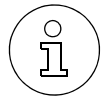
In order for the module to work as a S2 interface you must run a reconfiguration procedure using the S2M Maintenance.

- **E1 CAS access**

The TME1 module with E1 CAS access is a Digital Interface Unit (DIU) used for connecting a HiPath 1150/1190/1190R to a PSTN via an 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 uses up to 30 channels when the TME30 module is 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 TME1 link with E1 CAS master (see "TME1 module display readings (CAS access)" on page 3-73) during an external call, the system will go into a mute state for approximately 3 seconds while the system clock is synchronized.

- **S2 access**

It provides connections to the ISDN network via primary access (30 Channels), allowing services offered by the network to be used.

- **Functions**

- It increases the capacity of the system's external up to 20 on the HiPath 1150 and 45 on the HiPath 1190/1190R
 - The system only operates in Point to Point connections (PP).
 - The ISDN line may be used for video conferencing (external connection, outside the exchange)

Modules

Expansion modules (EB)

- It allows permanent call forwarding to another telephone number (CF), Callback if currently busy (CCBS), automatic MSN number search (Search MSN), Call Deflection (CD) and sending ticket information during the last call (AOC-D) at the end of the call (AOC-E).
- Features such as Calling Line Identification Presentation (CLIP) and Malicious Call Identification (MCID), Calling Line Identification Restriction (CLIR), to name but a few, can be provided if enabled by the local carrier.



HiPath 1190/1190R: In the event of a problem occurring with the TME1 link during an external call, the S2M master (see “Display indications of TME1 module (S2 access)” on page 3-75) system will go into a mute state for approximately 3 seconds while the system clock is synchronized.



A TME1 with S2M access operates on TEI (Terminal Endpoint Identifier) non-automatic mode. TEI value must be configured in the S2M Maintenance tool.

Note: In ISDN, some features depend on contracting and the local console.

TME1 interfaces

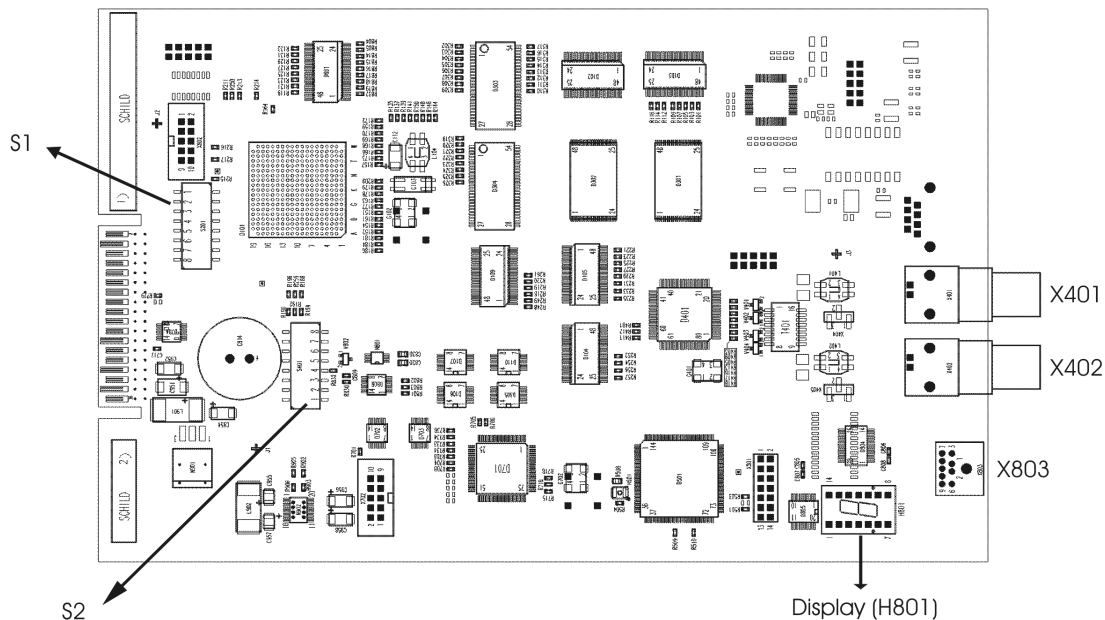


Figure 3-14 TME1 module

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

Table 3-18 TME1 module Components

TME1 module Connector assignments

X803 Connector	X402 Connector	X401 Connector
Serial interface Module-PC connection	BNC RX Connector Connections between the module and the alternative line E1	BNC TX Connector Connections between the module and the alternative line E1

Table 3-19 TME1 module Connector assignments

E1 CAS primary access)

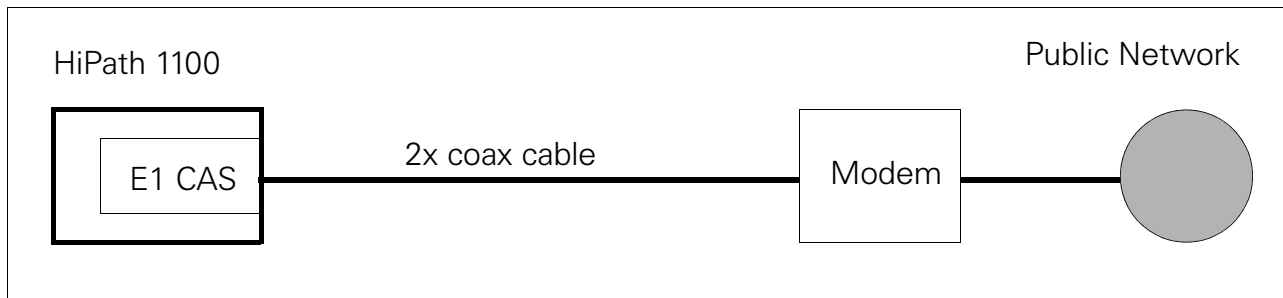


Figure 3-15 CAS access connection

Primary Access (S2)

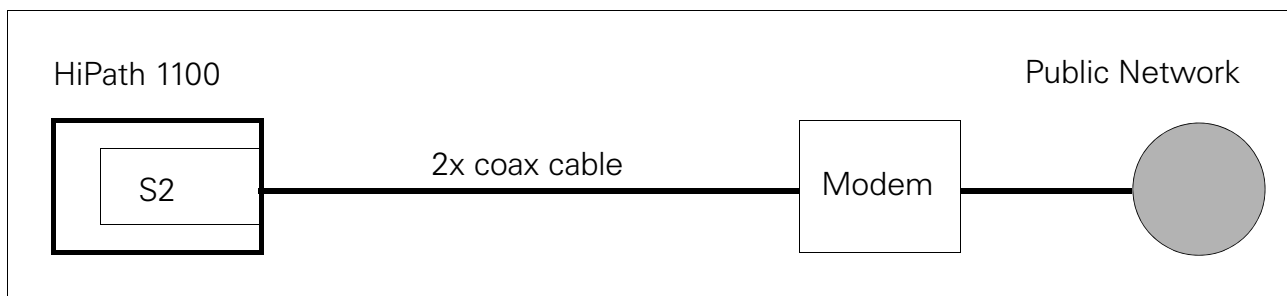


Figure 3-16 S2 access connection with 75 ohm impedance

Modules

Expansion modules (EB)

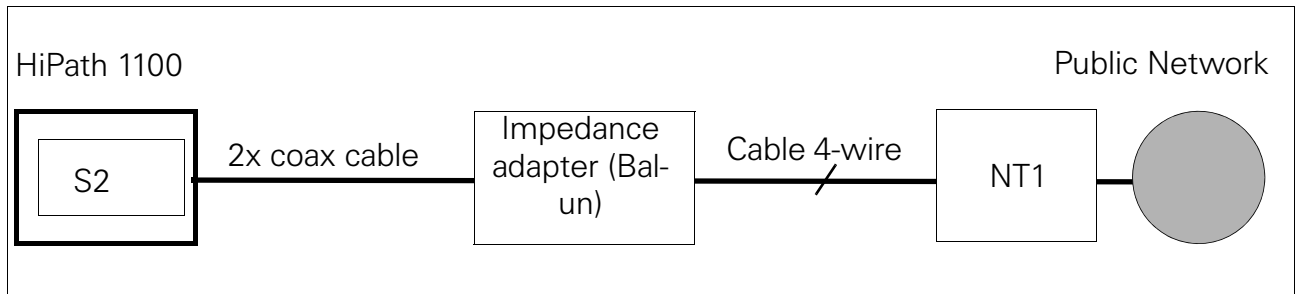


Figure 3-17 S2 access connection with 120 ohm impedance

Connector for TME1 module configuration

The Connector serves to link a PC or modem to a module using a serial cable (see “TME1 Serial Cable” on page 3-115). This makes it possible to program the module using the E1 Trunk Manager tool (for E1 CAS access) or S2M Maintenance tool (S2 access).

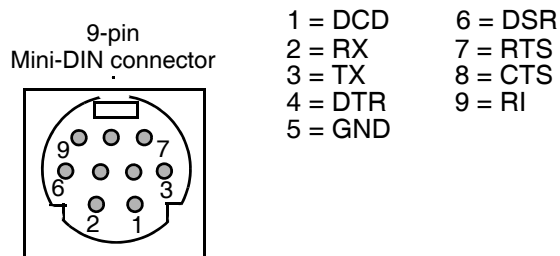


Figure 3-18 Signal distribution on the TME1 module Connector



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

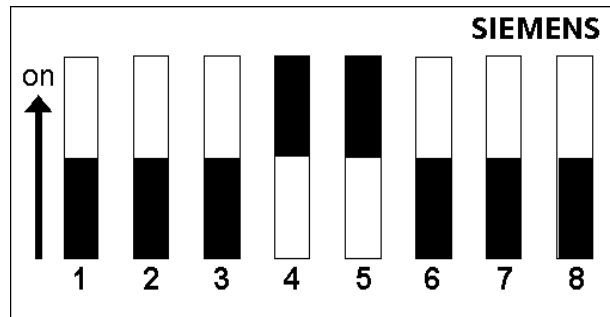


Figure 3-19 DIP Switch for the TME1 module

It is possible to configure the following settings by changing the positions of the Dip switches:

- DIP Switch 1 (S1)

Allows you to delete the flash memory, or choose the baud rate.

Switch	Procedure	Meaning	Possible settings
1	FE	Flash memory off	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 (default) (E1 CAS access).
2	EST	Reserved for future applications (S2M access)	
3	BR1	Baud rate configuration	(3) OFF, (4) OFF and (5) OFF: 9600 bps
4	BR2		(3) OFF, (4) OFF and (5) ON: 19200 bps
5	BR3		(3) OFF, (4) ON and (5) OFF: 38400 bps (3) OFF, (4) ON and (5) ON: 57600 bps (default)
6	RES	For future applications	
7	RES		
8	RES		

Table 3-20 TME1 module, DIP Switch 1

Modules

Expansion modules (EB)



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 3-21 TME1 module, DIP Switch 2

Segment Display Readings (H801) (E1 CAS access)

Display	Reading	Meaning
<i>B</i>	Continuous	The module is powered.
<i>J</i>	Continuous	Starting TME1 module.
<i>E</i>	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.
<i>B</i>	Continuous	Transferring memory contents to DRAM memory.
	Continuous	Checking and validating contents of Flash memory.
<i>P</i>	Continuous	TME1 module is active but CAS link is out of service.
<i>A</i>	Continuous	TME1 module is active with CAS link.
<i>I</i>	Continuous	"Unpacking" E1 Trunk Manager.
<i>3</i>	Continuous	
<i>7</i>	Continuous	Writing software to Flash memory.
<i>F</i>	Continuous	Checking transferred data.
<i>O</i>	Continuous	E1 and CAS links are down. The reason is unknown.
<i>3</i>	Cycle - Live	Clearing Flash memory.
<i>F E</i>	Alternating	Flash memory cleared.
<i>H</i>	Continuous	No software in Flash memory. Waiting for tool to download software
<i>A.</i>	Continuous	The local interface is taking the clock as reference from this link.

Table 3-22 TME1 module display readings (CAS access)

Modules

Expansion modules (EB)

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

Display	Reading	Meaning
0	Continuous	Wait connection with S2M Maintenance tool.
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.
A	Continuous with segment “g” blinking	TME1 module active with both links established.
2 or 3	Continuous	Loading software from Flash.
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.
J	Continuous	Clearing Flash memory.
3	Continuous	DIU-S2M starting.
—	blinking	DIU-S2M operating normally. If it stops blinking, indicates that the module is no longer working.
.	blinking	TME1 is synchronizing clock via external network.


Display	Reading	Meaning
I	Continuous	Network link operational.
I	Continuous	Link with mainboard operational.

Table 3-23 Display indications of TME1 module (S2 access)

3.5.5 U_{P0/E} module and CTR U_{P0/E} module

Introduction

With these modules you can connect U_{P0/E} telephones (optiPoint 500) to a HiPath 1150/1190 via 8, 4 or 2 U_{P0/E} interfaces, and to a HiPath 1120 system via 4 or 2 U_{P0/E} interfaces (see “System expansion limitations” on page 2-28).



CTR-U module installation is required._{P0/E} no in MB module (see “Installing a CTR-UP0/E module” on page 4-154)

3.5.5.1 U_{P0/E} module

HiPath 1120

Interfaces

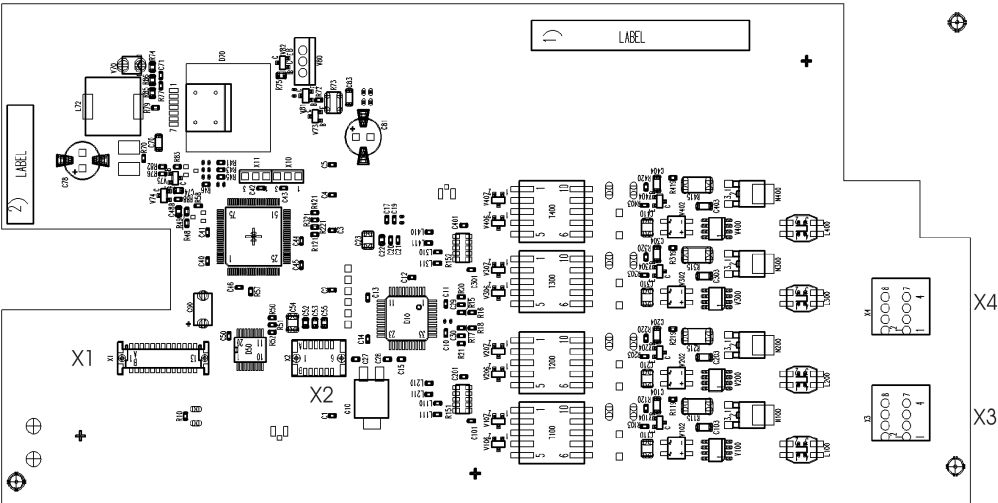


Figure 3-20 U_{P0/E} module HiPath 1120

Modules
Expansion modules (EB)

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 3-24 U_{P0/E} module Connectors HiPath 1120

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

HiPath1150/1190/1190R

Interfaces

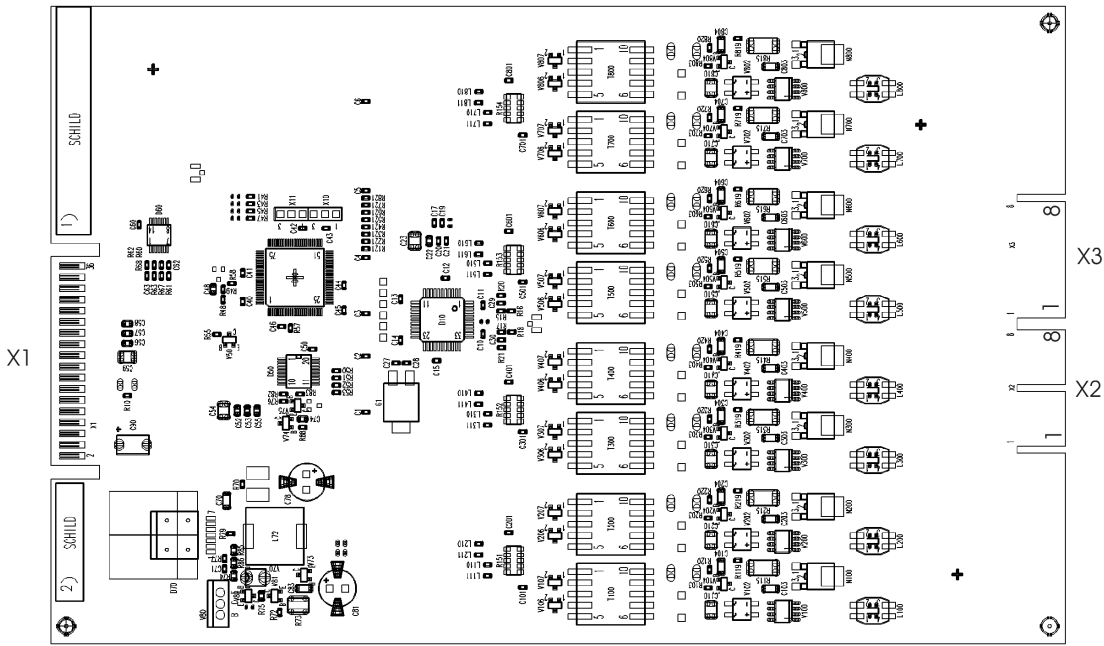


Figure 3-21 U_{P0/E} module HiPath1150/1190/1190R

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 3-25 U_{P0/E} module Connector assignments HiPath1150/1190/1190R

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

3.5.5.2 CTR-U_{P0/E} module

IHiPath 1120/1150/1190/1190R

Interfaces

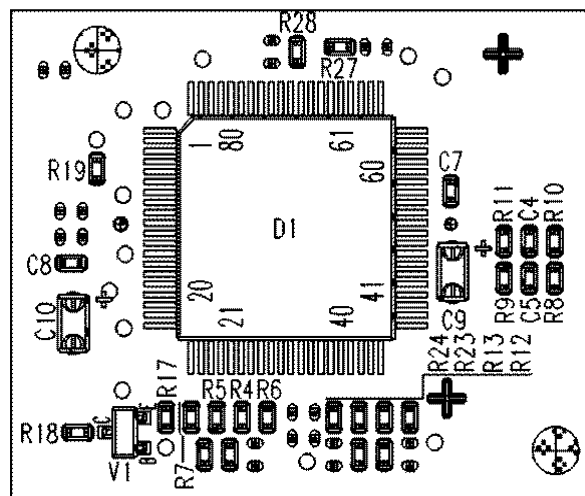


Figure 3-22 CTR-U_{P0/E} module HiPath 1120/1150/1190/1190R

Modules

Optional modules (MO)

3.6 Optional modules (MO)

3.6.1 LAN interface modules

Introduction

These provide a LAN Ethernet interface via their RJ45 Connectors that allow direct PC connections to HiPath 1100 within the network and if you have an ADSL modem available, they can share ADSL access, dispensing with the need for an external ADSL modem or HUB.

The HiPath 1100 can interact via the LAN network with the applications used in your administration, such as: HiPath 1100 Manager, SNMP services, Interaction Center Smart, Raters, etc.

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

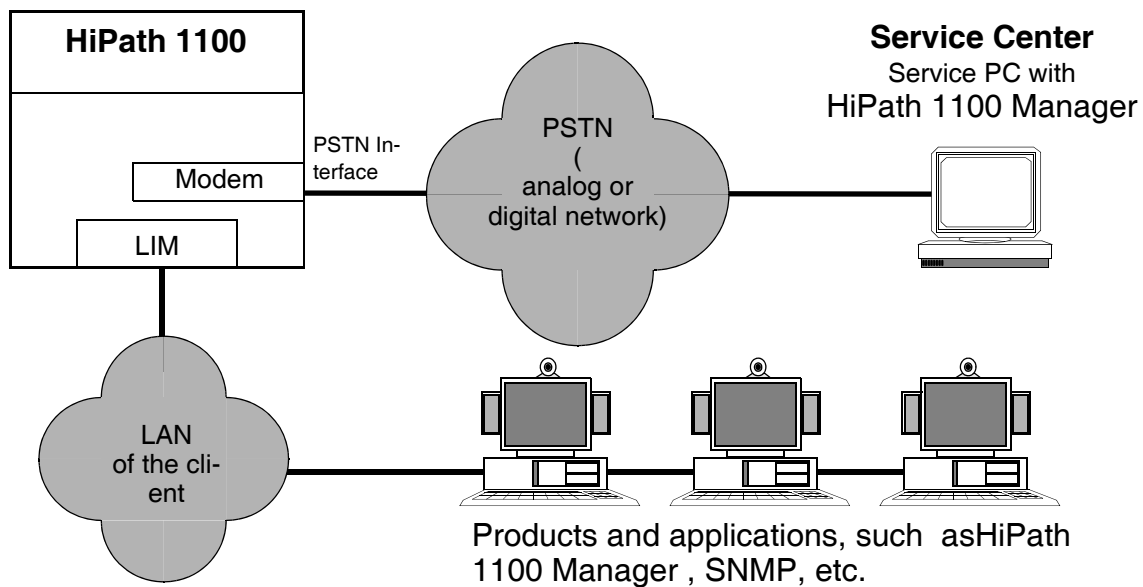


Figure 3-23 Functions via LAN network.



- Do not connect the V.24 interface to the PABX when using a network interface cable. All data is delivered through the network.
- ADSL modem access must be enabled by a carrier for one of the PABX lines. An Internet provider is also required.
- Remember to configure the ADSL connection in the CommServer.
- All the PCs must have a network card installed and be in the same network as the LAN interface module.

3.6.1.1 ADSL module

This is a previous version used initially on HiPath 1100 V6.0 equipped with ADSL modem functions and LAN interface on the same board.

The parameters required for this to work correctly must be set using the administration software “HiPath 1100 Manager” on page 6-256.

Functions

- ASDL modem with Full ADSL (8 Mbps downstream and 1 Mbps upstream - ITU G.922,1) and ADSL G2.Lite (1.5 Mbps downstream and 512 kbps upstream - ITU G2.922,2, 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.

Modules
Optional modules (MO)

HiPath 1120

Interfaces

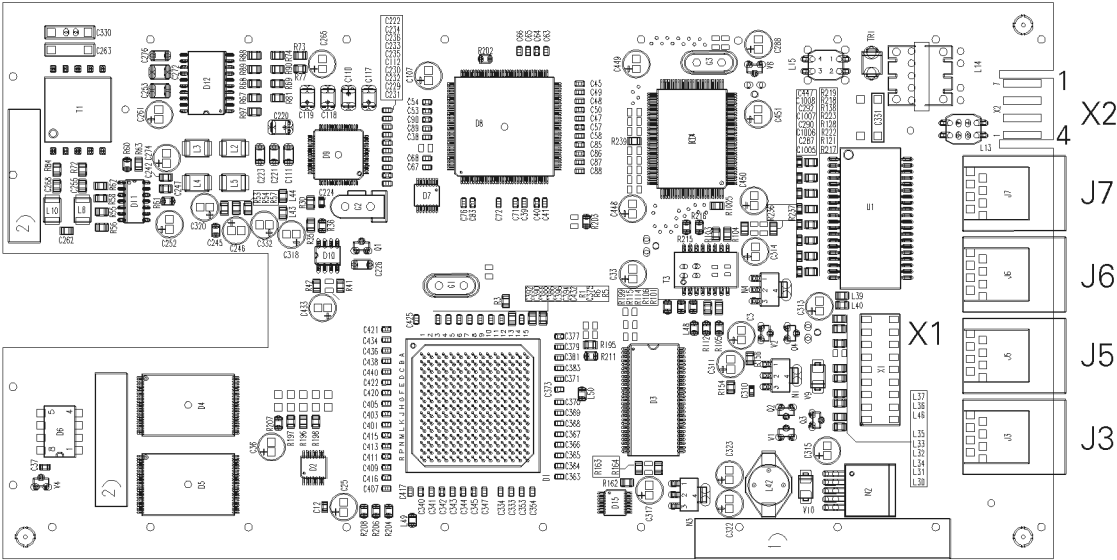


Figure 3-24 ADSL module HiPath 1120

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	Incoming external line with ADSL	RJ45 Connector HUB	RJ45 Connector HUB	RJ45 Connector HUB	RJ45 Connector HUB
2		External analog line output				
3						
4						

Table 3-26 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.

HiPath1150/1190/1190R

Interfaces

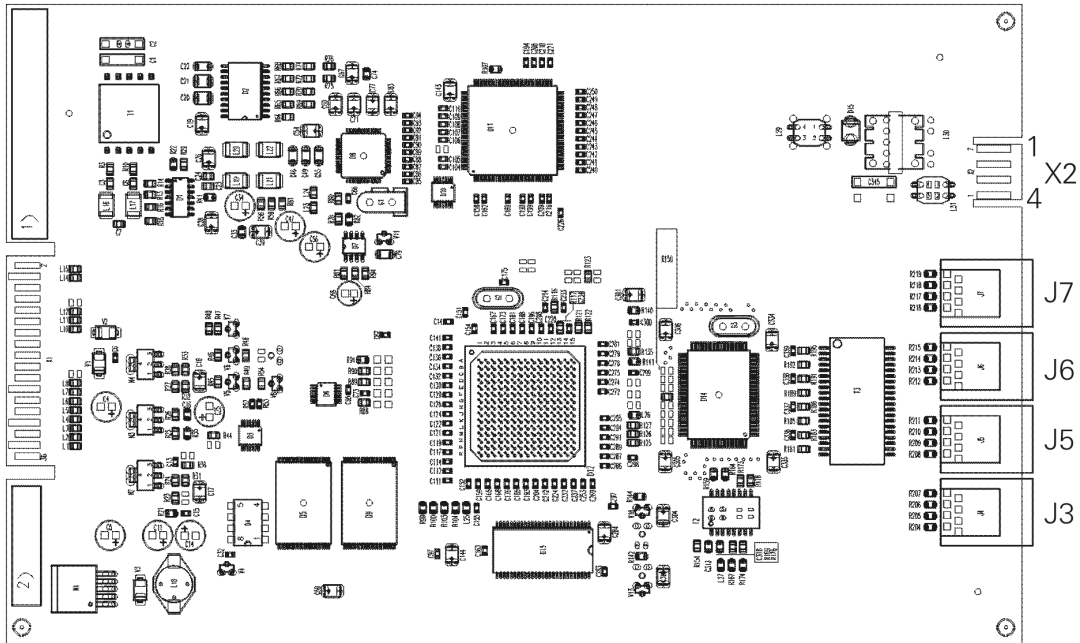


Figure 3-25 ADSL module HiPath1150/1190/1190R

ADSL module Connector assignments

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

Table 3-27 HiPath1150/1190/1190R ADSL module Connectors

Note: Connect X2 Connector slots 3 and 4 to a HiPath1150/1190/1190R external analog line input using the cable included with the module.

Modules

Optional modules (MO)

3.6.1.2 SLIMC, SADSLIM, LIMC and ADSLIM modules

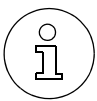
In this version we have the set comprising a LIM module (LAN Interface Module) and the ADSL modem (Baby Board ADSL) which can be optionally mounted on the board.

- **HiPath 1120** : SLIMC module (LAN) and SADSLIM module (LAN + ADSL modem)
- **HiPath1150/1190/1190R** : LIMC module (LAN) and ADSLIM module (LAN + ADSL modem)

Notes:

These modules already have the CommServer application installed and do not need to be connected directly to a PC to administer the PABX, only to the LAN.

To set the required parameters of the modules, use the “Configuring the SpeedStream 4100 modem” on page 6-258 and the administration tool “Siemens Admin Console” on page 6-257.



The ADSL modem used is the Siemens SpeedStream 4100. You can consult the configuration instructions in the manual which you will find in the Setup and Installation CD.

HiPath 1120

Interfaces

SLIMC and SADSLIM module:

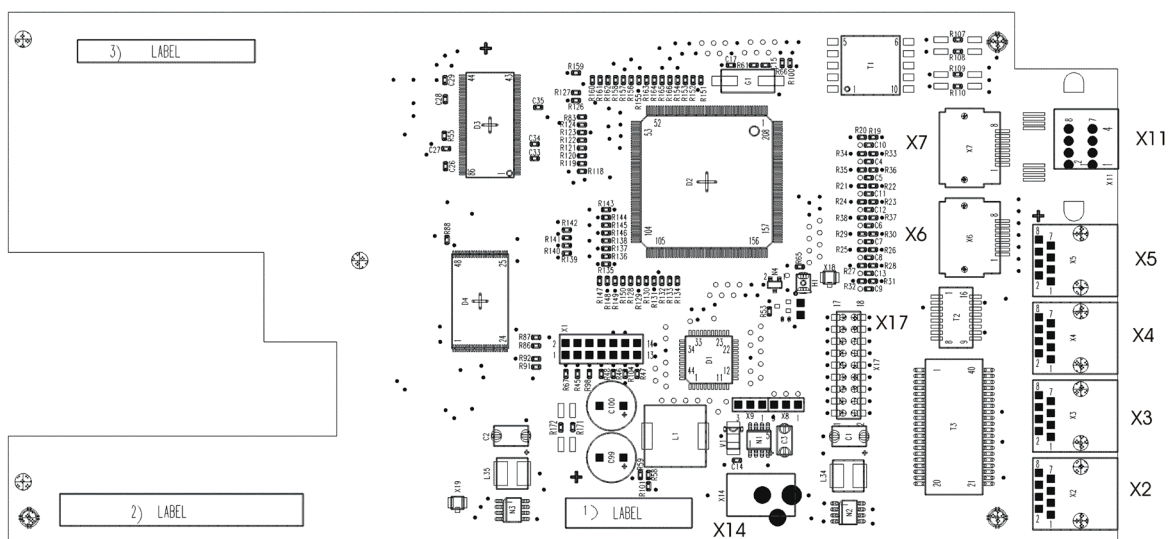


Figure 3-26 SLIMC and SDASLIM module HiPath 1120

Note: Connect X11 Connector slots 3 and 4 to a HiPath 1120 external analog line input using the cable included with the module.

Connector assignments of SLIMC and SADS LIM module

Contact	X2 Connector	X3 Connector	X4 Connector	X5 Connector	X11 Connector	X17 Connector
1	RJ45 Connector HUB	RJ45 Connector HUB	RJ45 Connector HUB	RJ45 Connector HUB	Incoming external line with ADSL	Connection to the MB is through a pin Connector
2					External analog line output	
3						
4						
	X6 Connector	X7 Connector	X14 Connector			
	Connection s of the Baby Board ADSL Ethernet Interface	Baby Board ADSL power supply	ADSL line			

Table 3-28 Connectors of the SLIMC and SDASLIM module HiPath 1120

Modules
Optional modules (MO)

HiPath1150/1190/1190R

Interfaces

LIMC and ADSLIM module:

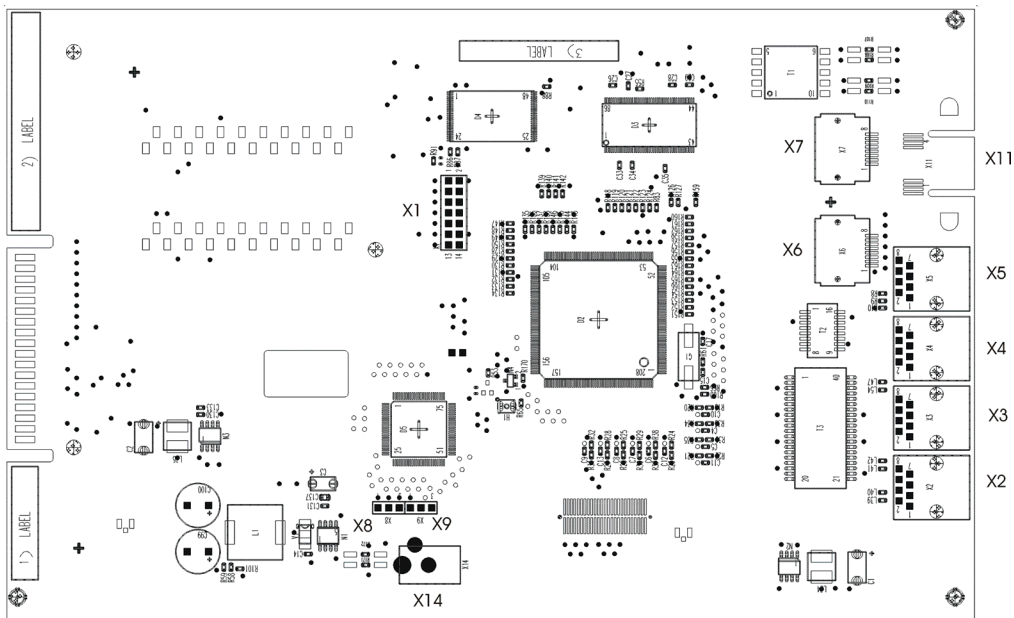


Figure 3-27 LIMC and ADSLIM module HiPath1150/1190/1190R

Connector assignments of the LIMC and ADSLIM module

Contact	X2 Connector	X3 Connector	X4 Connector	X5 Connector	X11 Connector
1	RJ45 Connector HUB	RJ45 Connector HUB	RJ45 Connector HUB	RJ45 Connector HUB	Incoming external line with ADSL
2					External analog line output
3					
4					
	X6 Connector	X7 Connector	X14 Connector		
	Baby Board ADSL Ethernet Interface	Baby Board ADSL power supply	ADSL line		

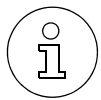
Table 3-29 Connectors of the LIMC and ADSLIM module HiPath1150/1190/1190R

Note: Connect X11 Connector slots 3 and 4 to a HiPath1150/1190/1190R external analog line input using the cable included with the module.

3.6.1.3 Baby Board ADSL

Introduction

Provides ADSL services through the SpeedStream 4100 modem to the SADSLIM and ADSLIM modules.



If you do not have the Baby Board ADSL, you will not be able to access ADSL, only the LAN network.

HiPath 1120/1150/1190/1190R

Interfaces

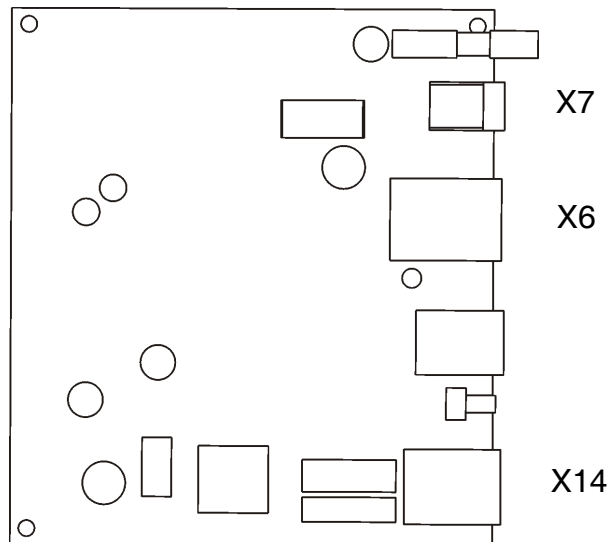


Figure 3-28 Baby Board ADSL HiPath 1120/1150/1190/1190R

Modules

Optional modules (MO)

Baby Board ADSL Connector assignments

Contact	X6 Connector	X7 Connector	X14 Connector
	Baby Board ADSL Ethernet Interface	Baby Board ADSL power supply	ADSL line

Table 3-30 Baby Board ADSL Connectors HiPath 1120/1150/1190/1190R

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, four of which can be used as forwarding mailboxes (for auto-answering, greeting with transfer options, day/night service, speed dial)
- Mailboxes may be automatically associated
- 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 up to 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%

HiPath 1120/1150/1190/1190R

Interfaces

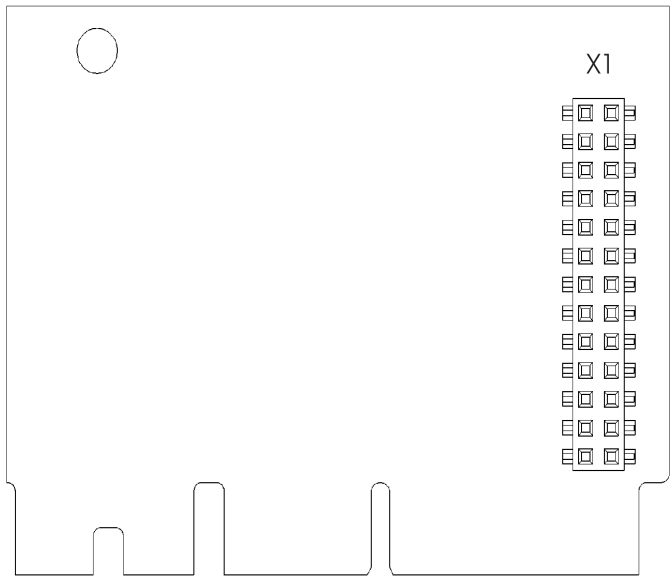


Figure 3-29 HiPath 1120/1150/1190/1190R EVM module

Connector assignments

X1 Connector
Connects to MB through a pin Connector

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

Modules

Optional modules (MO)

3.6.3 CD 16 module

Introduction

- This is an expansion module to provide support for over 16 CD interfaces on the HiPath 1190/1190R and for connecting more than 16 KS type system telephones. The CD 16 module has a dedicated slot for burning CDs.



When a UP0/E module is connected to the HiPath 1190/1190R, the CD 16 module is disabled.

CD 16 Interfaces

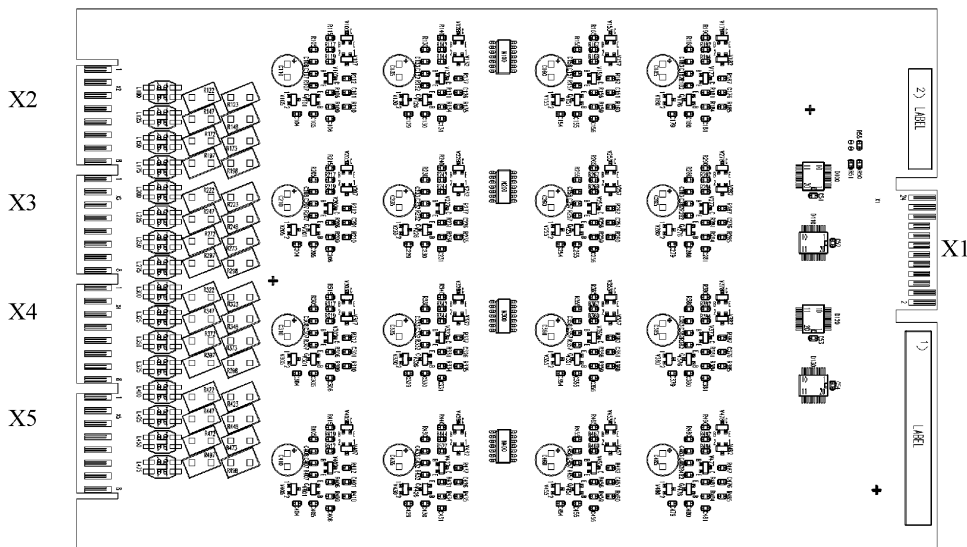


Figure 3-30 CD 16 module

Note: CD interfaces on a CD 16 module are installed subsequently to 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: The Music module is only for the 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.
- You can insert music for external calls placed on hold (MOH) using an internal or external music source.

Modules
Optional modules (MO)

3.6.4.1 HiPath 1120

Interfaces

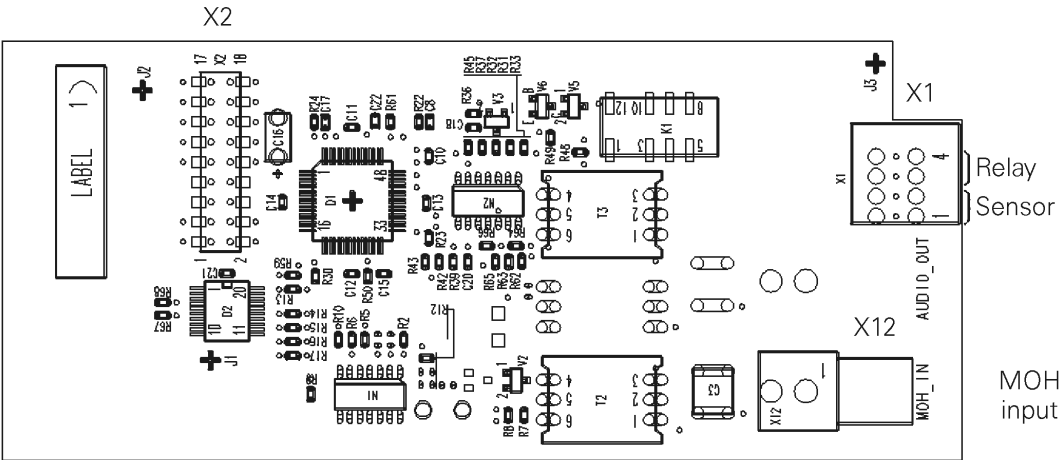



Figure 3-31 Music module

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 and 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
Relay	
Maximum switching current (AC)	1.25 A
Maximum switching current (DC)	2 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 HiPath1150/1190/1190R

For HiPath1150/1190/1190R the external audio source (music, for example) is directly connected to the MB in position X8 (see Figure 3-3) or in an analog extension port.

Connection Values for an external music source*

Internal Resistance	2.4k Ω
Maximum input voltage	-10 dBm

***\ This port supports commercial CD players, receivers, MD, etc. (See Figure 4-45, "Protection and grounding connection diagram", on page 4-179).

3.7 Power Supply Unit (PSU)

Introduction

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

The power sources of the HiPath1150/1190/1190R systems can have connections available to a row of batteries, which guarantee constant power supply should there be an outage in the AC line.

Modules

Power Supply Unit (PSU)

Functions

- Ring tone generator
- DC power 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
- **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 interface

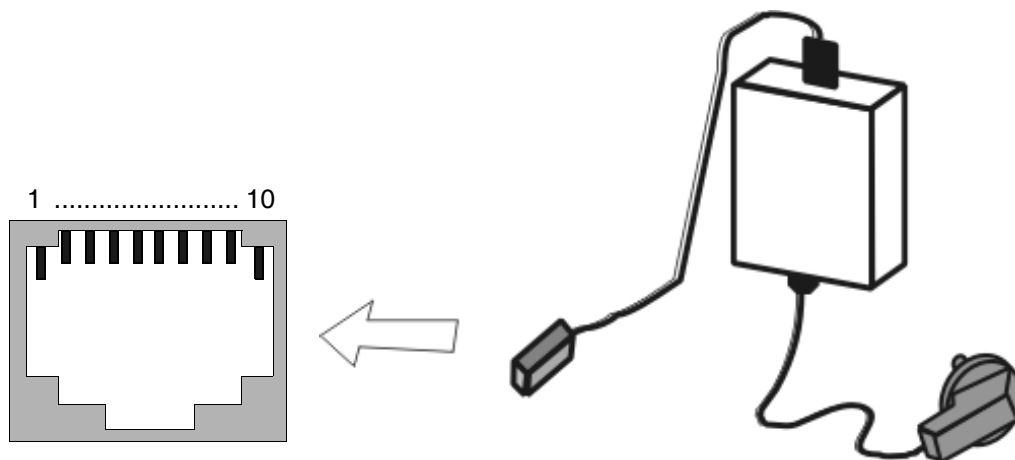


Figure 3-32 System PSU interface HiPath 1120

PSU Connector assignments (HiPath 1120)

Contacts	Function		
	RSA	SPA	IM
1	Free	Free	Free
2 - 3	8 V _{rms}	8 V _{rms}	8 V _{rms}
4 - 5	23 V _{rms}	23 V _{rms}	23 V _{rms}
6 - 7	42 V _{rms}	65 V _{rms}	40 V _{rms}
8 - 9	Free	Free	Free
10	Free	Free	Free

Table 3-35 PSU Connector assignments HiPath 1120



Warning

Turn the system power ON or OFF using the power supply cable or the input circuit breaker.

3.7.2 HiPath1150/1190/1190R

- 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)



NB

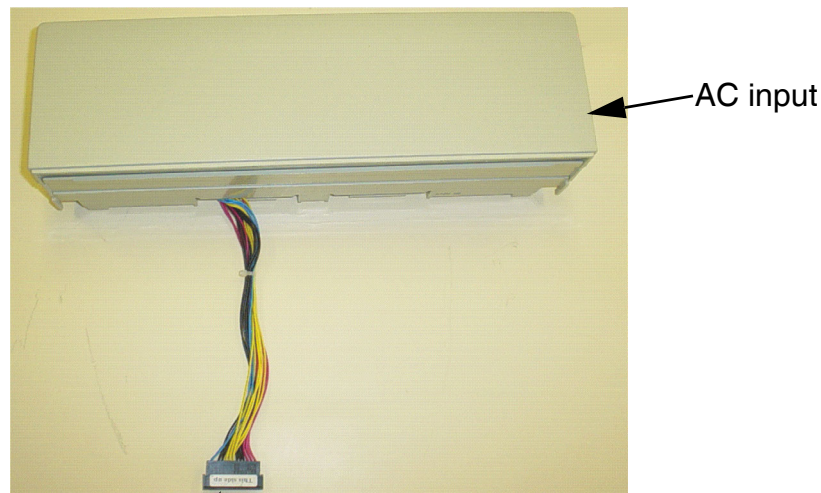
For the HiPath1150/1190/1190R with battery connection input (BBU), you need to install the ferrite (C39022-Z7000-C7) in the AC power cable, which must be no further than 20 mm from the female connector (see Chapter 3.12.7, "Power supply cable of the PSU - HiPath1150/1190/1190R" on page 3-121).

- There are 2 types of power supply:
 - With battery connection socket
 - Without battery connection socket

Modules
Power Supply Unit (PSU)

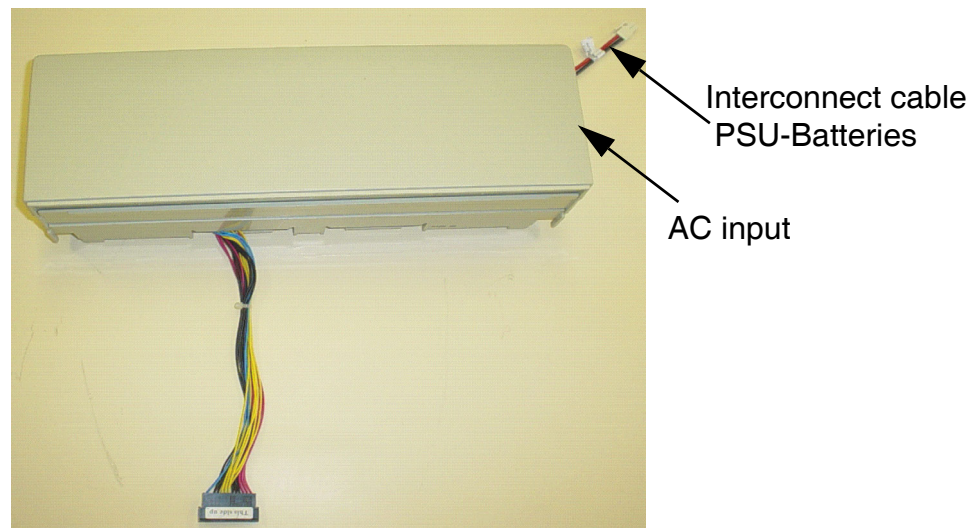
PSU Interfaces HiPath 1150

PSU without battery input



Indication of the connection slot
on the backplane

PSU with battery input

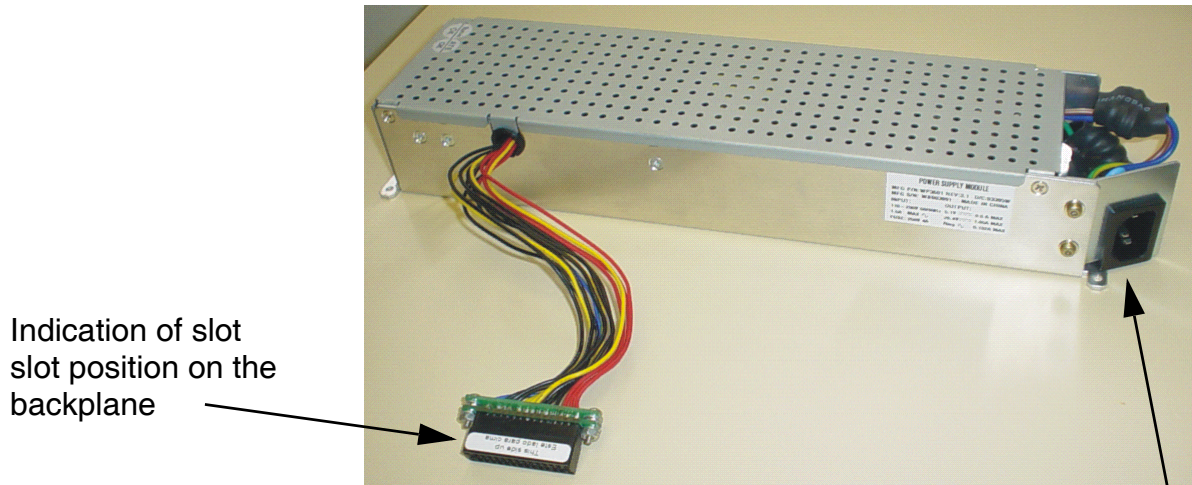


Indication of the connection slot
on the backplane

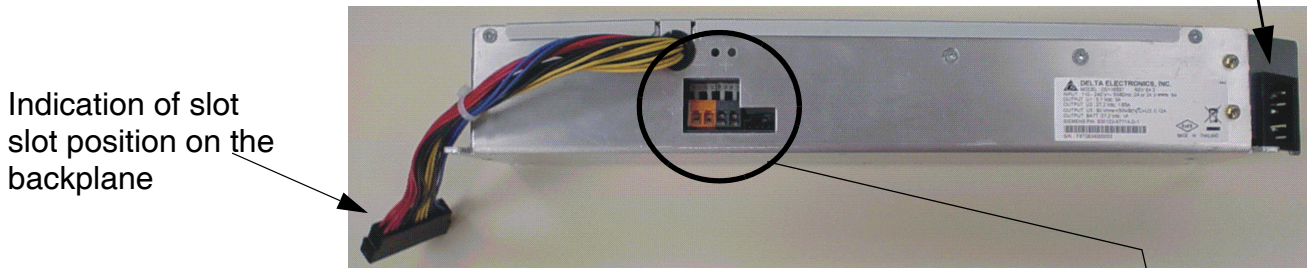
Figure 3-33 System PSU interface HiPath 1150

PSU HiPath 1190/1190R Interfaces

PSU without battery input



PSU with battery input



Warning!

Cable polarity indication is printed on the case over the Connectors.

1 - Connector used to link the PSU's via the **Interconnect cable between the PSU's** and also used to connect the batteries via the **PSU - battery interconnect cables** in the 1st PSU located in the base of the system (see "Battery interconnect cables (BBU)" on page 3-120)

2 - Connector for connecting the Vshare cable to the PSU's

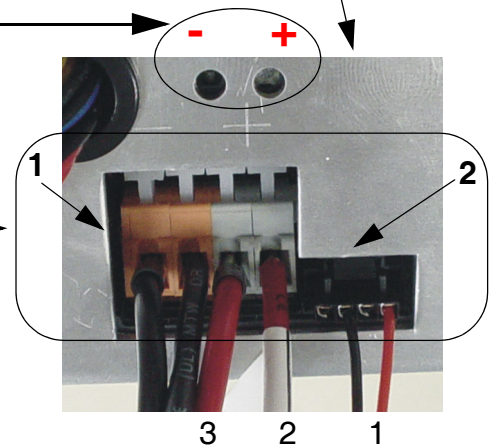


Figure 3-34 PSU systems interfaceHiPath 1190/1190R



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
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 HiPath1150/1190/1190R

3.8 Batteries

The HiPath1150/1190/1190R systems can be powered with batteries if the AC line is down, thus guaranteeing a continuous electrical supply to telephony services. Battery duty cycle varies according to the capacity of the battery installed

Systems and battery set (2x12v) are joined by a connection cable (see “Battery interconnect cables (BBU)” on page 3-120)

Note: The power supply used in the systems must have a battery connection socket (BBU) (see “Power Supply Unit (PSU)” on page 3-91).

Batteries

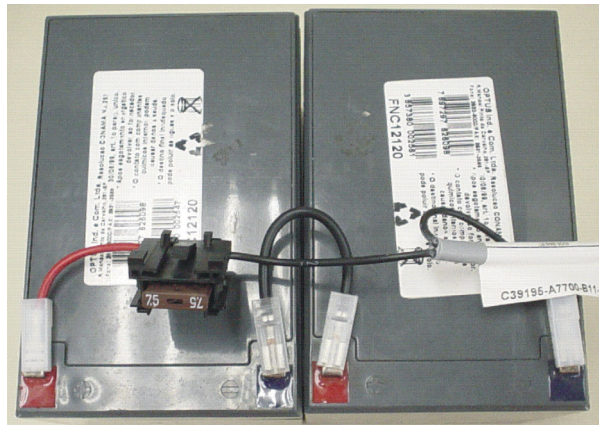


Figure 3-35 Batteries



Caution

FAILURE TO REPLACE BATTERY WITH SPECIFIED BATTERY TYPE CAN CAUSE RISK OF EXPLOSION. DISPOSE OF USED BATTERIES ACCORDING TO YOUR COUNTRY'S LAWS AND REGULATIONS.

Technical Data

Battery Type	Valve-Regulated Lead Acid (VRLA)
Voltage	27.2V
Supply voltage	24V (2X12V)
Capacity	9Ah to 12Ah at 20h discharge

Table 3-37 Batteries - technical information

Modules

Main Distribution Frame

3.8.1 Examples of Configurations X Capacities x Times

As an example, a simulation was carried out in some of the settings of the HiPath 1150/1190 systems for the working period of the system when there is in an outage in the AC network under normal call traffic conditions.

HiPath 1150

Settings	Battery capacity	Working period
01 MB	7Ah	14 hours
01 MB + 01TME1	7Ah	10 hours
01 MB + 01 EB 210	7Ah	11 hours

Table 3-38 Examples of the working period of the batteries in the HiPath 1150

Increasing by one EB 210 module reduces the total time by 15 minutes.

HiPath 1190

Settings	Battery capacity	Working period
01 CPU + 01 EB 210	7Ah	11 hours
01 CPU + 01 EB 210 + 01TME1	7Ah	9 hours
01 CPU + 02 EB 210 + 02TME1	7Ah	4 hours

Table 3-39 Examples of the working period of the batteries in the HiPath 1190

Increasing by one EB 210 module reduces the total time by 15 minutes. If the working period is less than 1.5 hours, this falls by 5 minutes.

3.9 Main Distribution Frame

Introduction

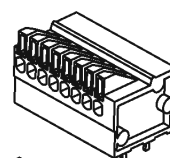
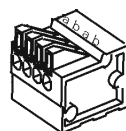
The Main Distribution Frame (MDF) connects cabling to a public exchange and extensions using Connectors.

Follow the procedures described in Chapter 4.9, "Connections to the system's MDF" on page 4-165 to attach the cables to the MDF Connectors.

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

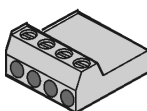
MDF Interfaces

Cables are attached using pressure (Dinkle Connector)

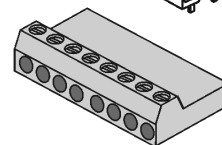


Cables are attached with screws

4-way



8-way



Cables are attached using **2-way** Connectors (for example, RJ 45)

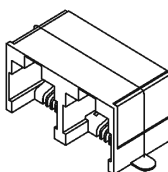


Figure 3-36 MDF - Connectors

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

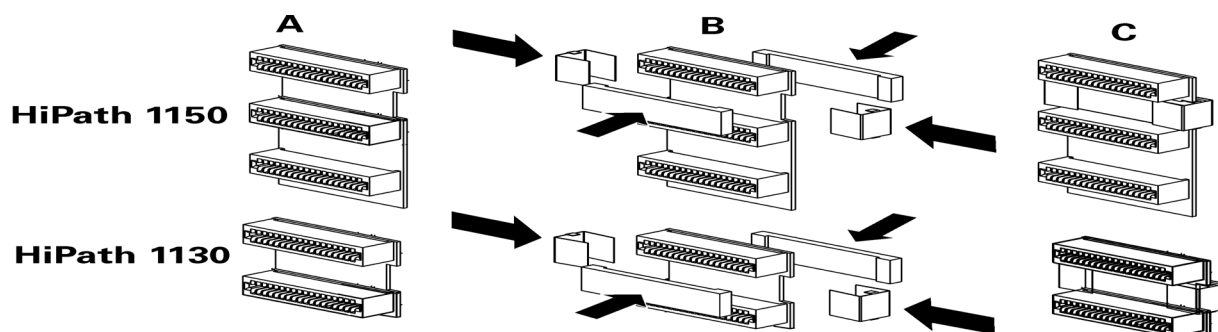


Figure 3-37 Backplane HiPath 1150

Modules
Backplane

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

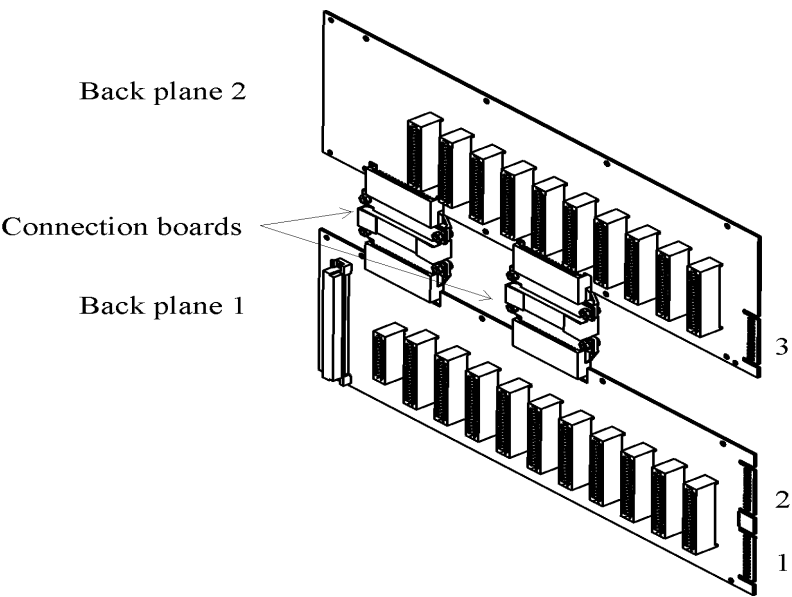


Figure 3-38 HiPath 1190 backplanes

HiPath 1190/1190R backplane Connector assignments

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

Table 3-40 HiPath 1190/1190R backplane Connectors

3.11 Entrance telephone

The HiPath 1100 can be connected to 2 different types of entrance telephone:

- The **internal entrance telephone**, which uses a connection interface between the door device and the PABX (for example, TFE)
- The **external entrance telephone**, connected directly to the A/B or S₀ slot



For further information on installation, settings and requirements, consult the Entrance Telephone installation manual.

3.11.1 Internal entrance telephone with TFE interface

Introduction

With the HiPath 1100 you can connect up to twenty entrance telephones in extension slots. The connection is made using an interface between the entrance telephone and the PABXs.

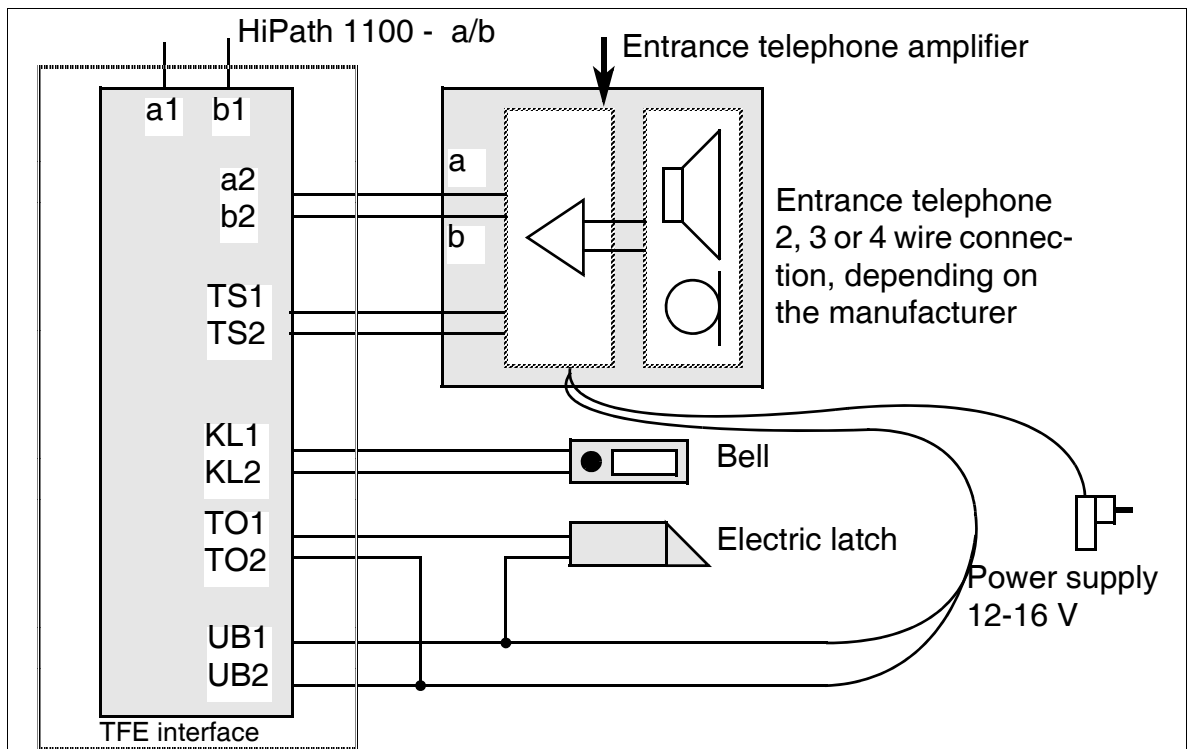


Figure 3-39 Connections to the TFE interface

- a1/b1 Connection to the system
- a2/b2 Connection of the amplifier of the entrance telephone

Modules

Entrance telephone

- KL1/KL2 Connection of the bell (NB, do not use power supplies from other manufacturers)
- TO1/TO2 Connection of the relay to the electric latch
- UB1/UB2 Power supply for TFE (12-16 V)
- TS1/TS2 Contact for activating the amplifier of the entrance telephone (if required*)
*newer amplifiers have a programmable automatic disconnection system. In this case, this connection will not be required.

3.11.1.1 Examples of connection

No amplifier

- Model: S30817-K930-A300 - TFE
 - EGUCOM (Ackermann, Emmerich)

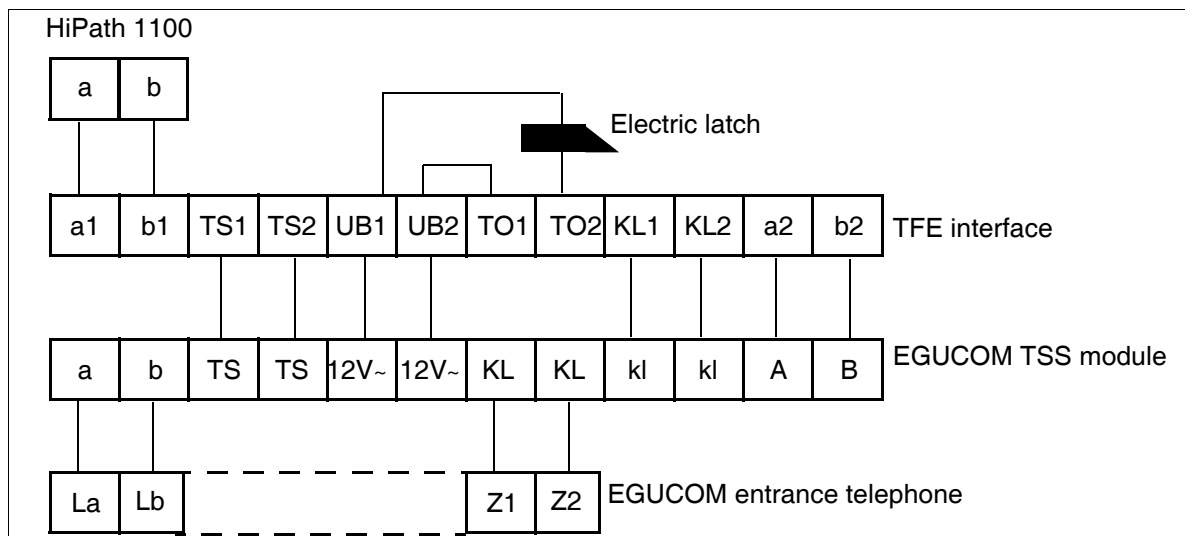


Figure 3-40 EGUCOM entrance telephone by Ackermann (Emmerich)

- Grothe, Telegärtner

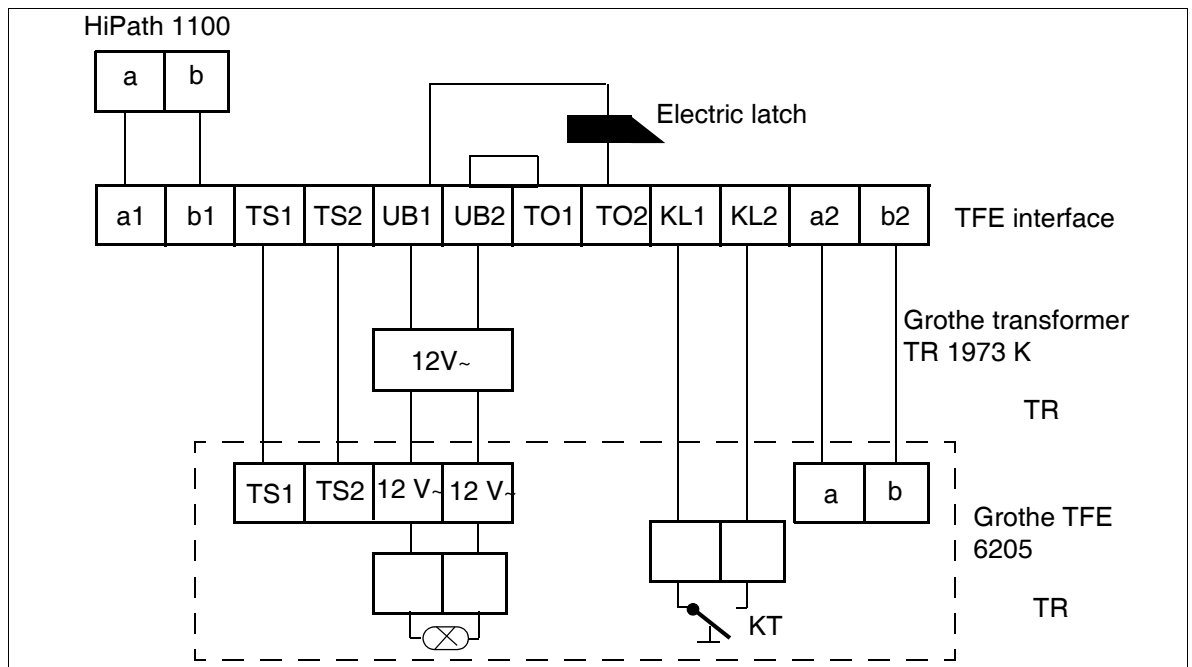


Figure 3-41 Grothe entrance telephone

- HDL - Brazil (models: F3A, F4A, F5A)

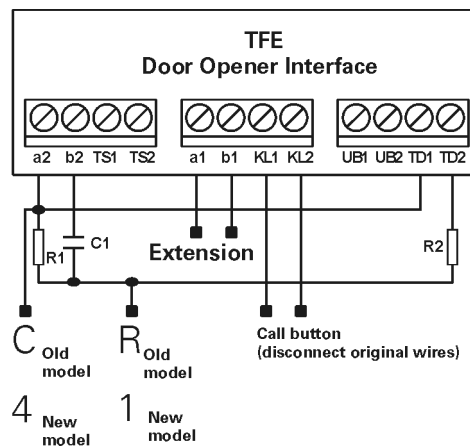


Figure 3-42 HDL entrance telephone - Brazil

Additional components include: R1 (1,2 k Ω / 0,25W / 5%) and R2 (33 Ω / 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).

Modules
Entrance telephone

With amplifier

- Model: S30122-k7696-F313 - TFE
- Ritto

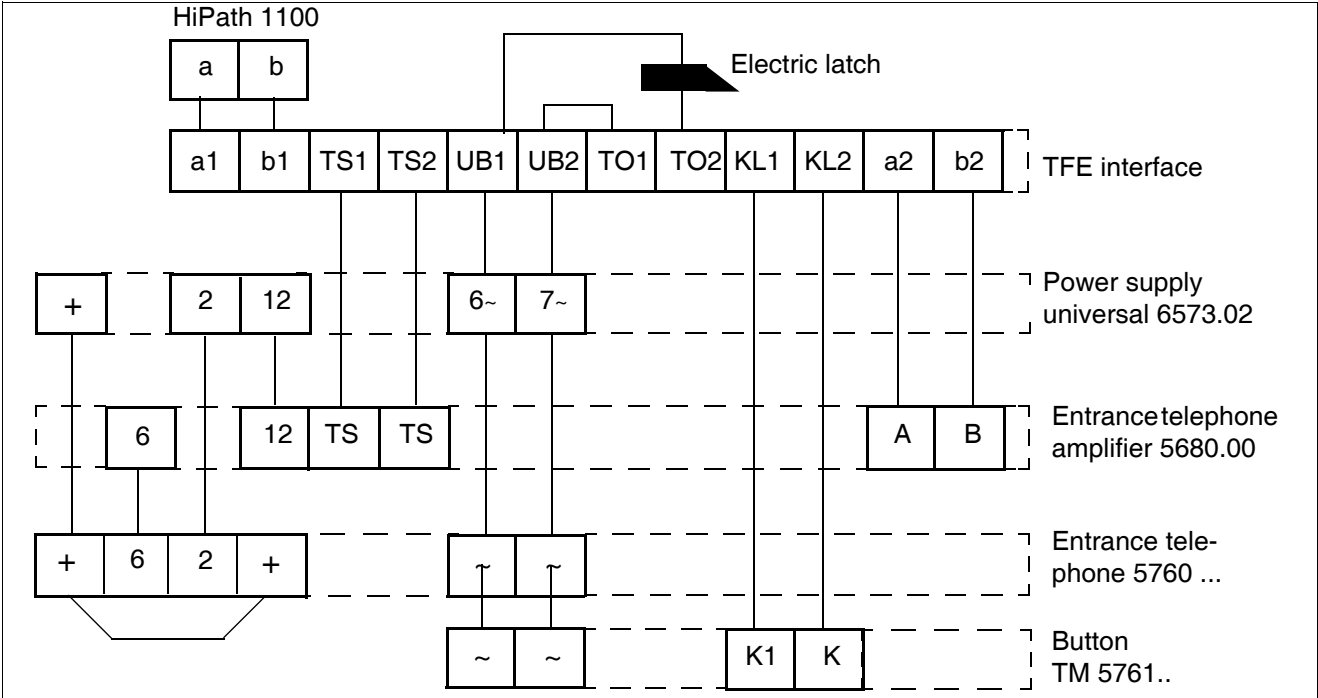


Figure 3-43Ritto entrance telephone

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

Version for Brazil

- Model S30817-Q936-C282 - Brazil

For installation in models: F5AZL, F8AZ, F9AZ

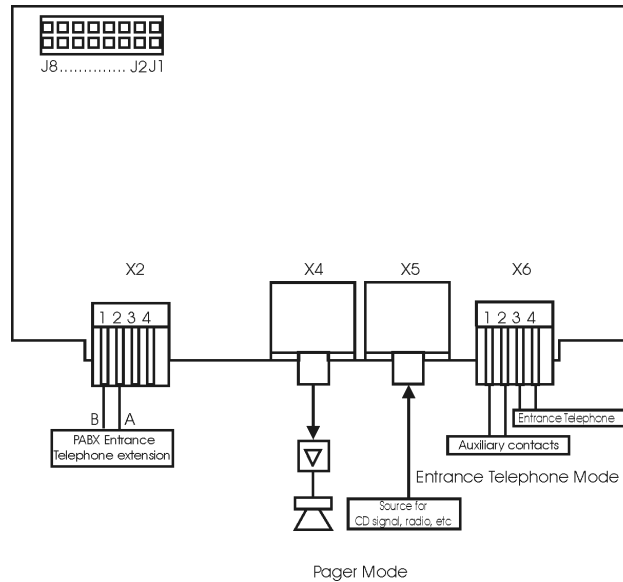
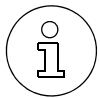


Figure 3-44 Overview entrance telephone interface - S30817-Q936-C282



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

Modules

Entrance telephone

3.11.1.2 TFE-S interface

This links an interface of system analog connections with an entrance telephone and a bell button. This is controlled using a system that allows the connection of commercial-type passive button pads. Each TFE-S interface requires its own power supply.

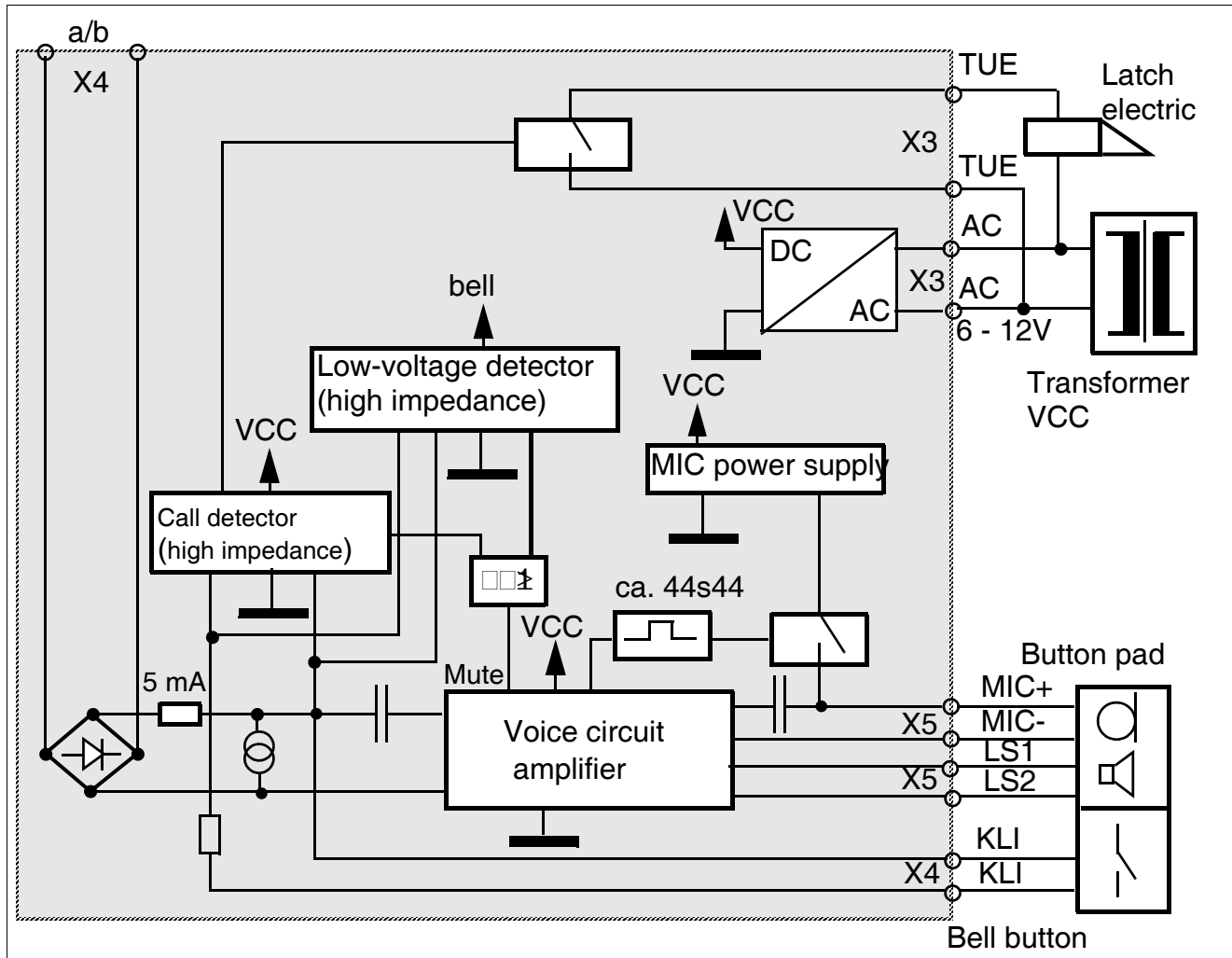


Figure 3-45 Connections of the TFE-S interface



Warning

In the analog interface, the **a** wire must be connected to the negative and the **b** wire to the positive.

Table 3-41 Attribution of TFE-S contacts

Pin No.	X3 terminal	X4 terminal	X5 terminal	X1 jumper	X2 jumper
1	AC	(a wire) -	Speaker (LS1)	2 and 3 = Zn 1 and 2 = 600 ohm	Ritto 2 and 3 Siedle 1 and 2
2	AC	(b wire) +	Speaker (LS2)		
3	Contact of the electric latch(TUE)	Contact of the bell (KLI)	Microphone (MIC+)		
4	Contact of the electric latch (TUE)	Contact of the bell (KLI)	Microphone (MIC-)		

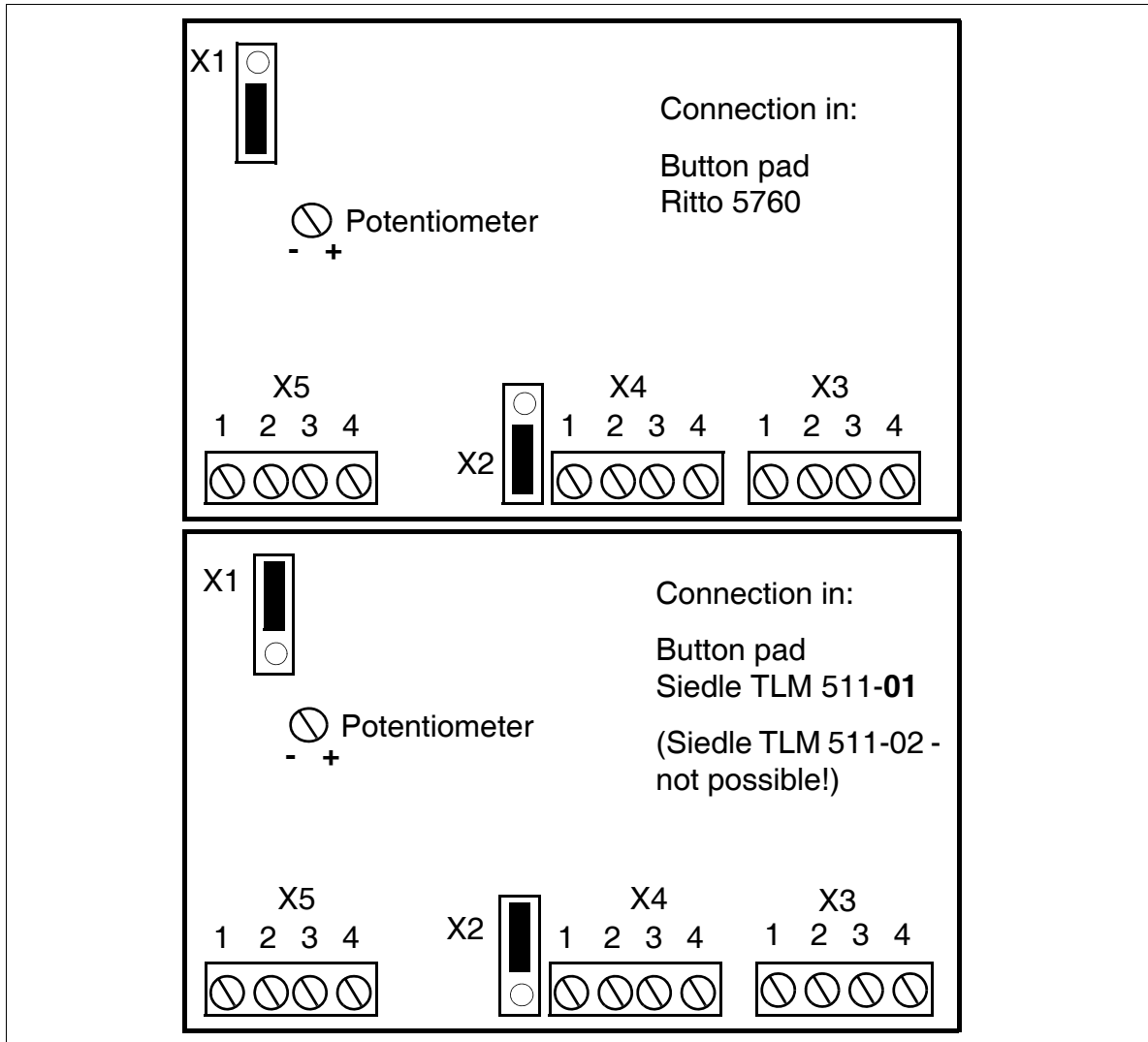


Figure 3-46 Assigning button pad contacts

Examples of connection

Depending on the functions desired, the connection should be made with an electric entrance telephone (TFE-S) with amplifier.

In the analog interface, the a wire should be connected to the negative and the b wire to the positive.

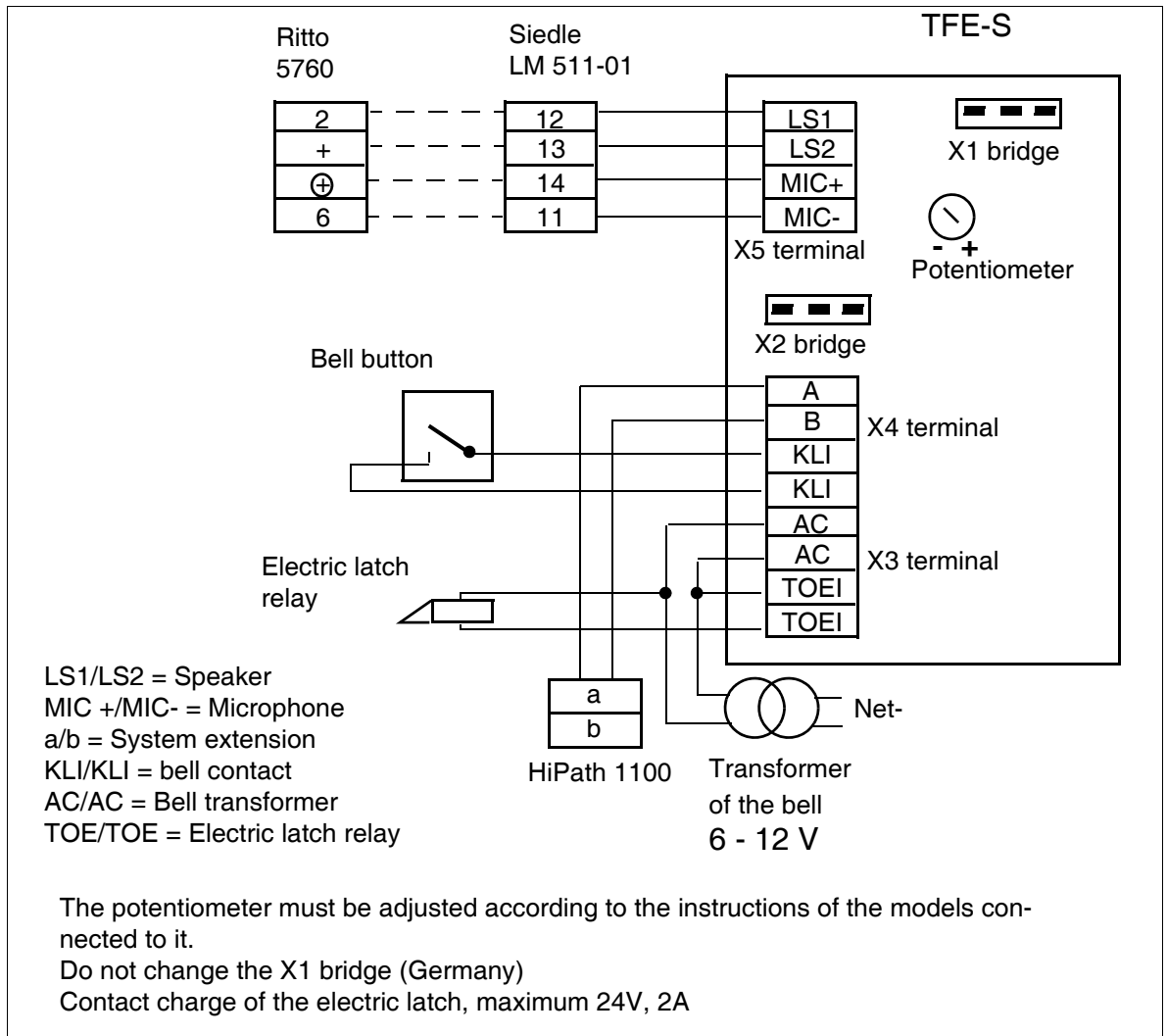


Figure 3-47 Connection with Siedle TLM 511-01 and Ritto 5760 button pad

Modules

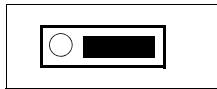
Entrance telephone

Specific notes

Siedle: the following changes should be made to the Siedle TLM 511-01 button pad:

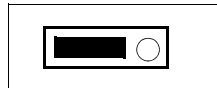
1. Open the Siedle button pad
2. Open bridges 1, 3 and 4
3. Change the wire of the Speaker of the „bl“ pin for the „12“ pin
4. Close the Siedle button pad

X2 bridge




Ritto: In the Ritto 5760 button pad, the potentiometer should be adjusted to 3/4 of the maximum volume.

X2 bridge



Note:

If there is a bridge between + and  (in the button pad), it should be removed, otherwise the adapter TFE-S could be damaged.

The X1 bridge remains in the factory position.

3.11.2 External entrance telephone

Introduction

The use of an external entrance telephone is defined during the programming phase of the "Type of equipment connected to the extension", code 003. This option supports up to 4 devices connected directly to analog ports A/B or in the bar of the S₀ module.



Please consult installation and configuration requirements for the entrance telephones in their documentation.

3.11.2.1 Analog external entrance telephone

The external analog entrance telephone device must behave like an analog telephone (dialing, detection and DTMF control)

3.11.2.2 ISDN external entrance telephone

The ISDN external entrance telephone device must behave like an ISDN telephone. It must also be controlled by DTMF signals.



Consult the ISDN external entrance telephone manual to check available settings and installation instructions.

Go to the HiPath 1100 Manager folder - Advanced/System Settings/General - "External entrance telephone" and insert the information on the entrance telephone device for correct working.

3.12 Interconnect cables

3.12.1 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 HiPath 1100 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.

If it is necessary to use another serial cable as an extension to connect the computer/printer/modem to the HiPath 1100, the maximum total length should not exceed 15 metres.

Modules

Interconnect cables

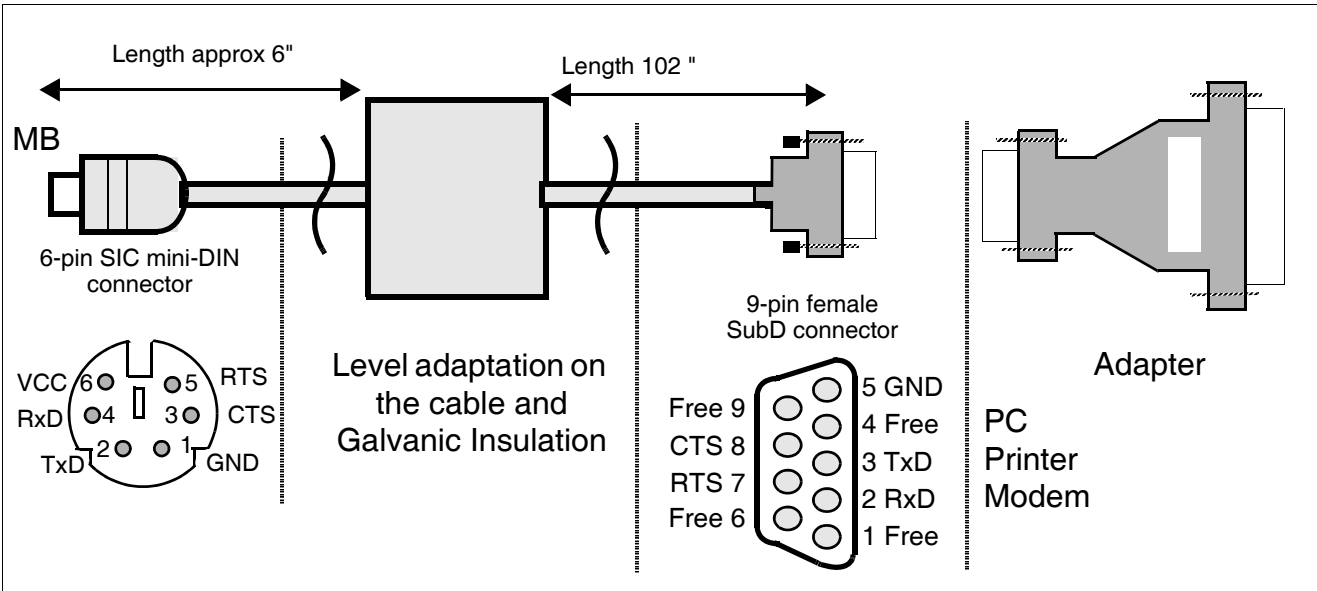


Figure 3-48 V.24 adapter cable connection system

V.24 adapter cable signals

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

Table 3-42 V.24 adapter cable signals

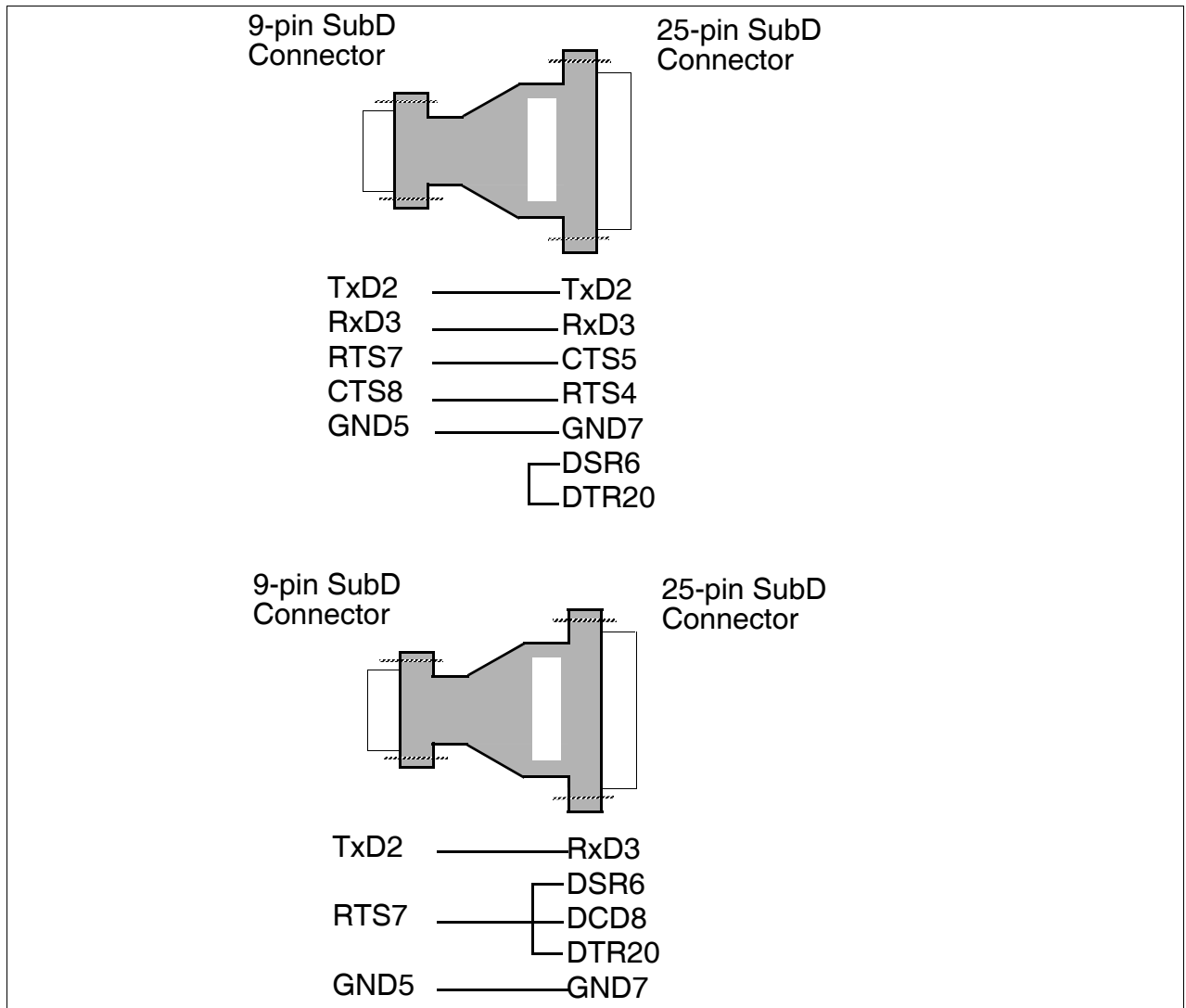



Figure 3-49 Modem and adapter connection system to

3.12.2 USB adapter cable

A 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.

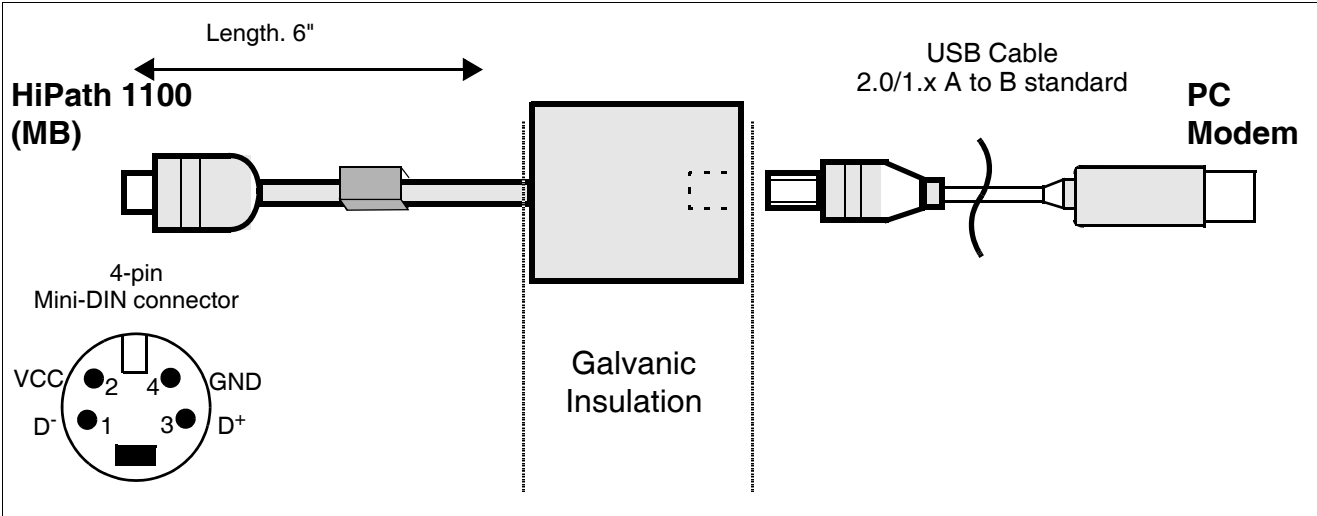


Figure 3-50 USB adapter cable connection system

USB adapter cable signals

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

Table 3-43 USB adapter cable signals

3.12.3 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.

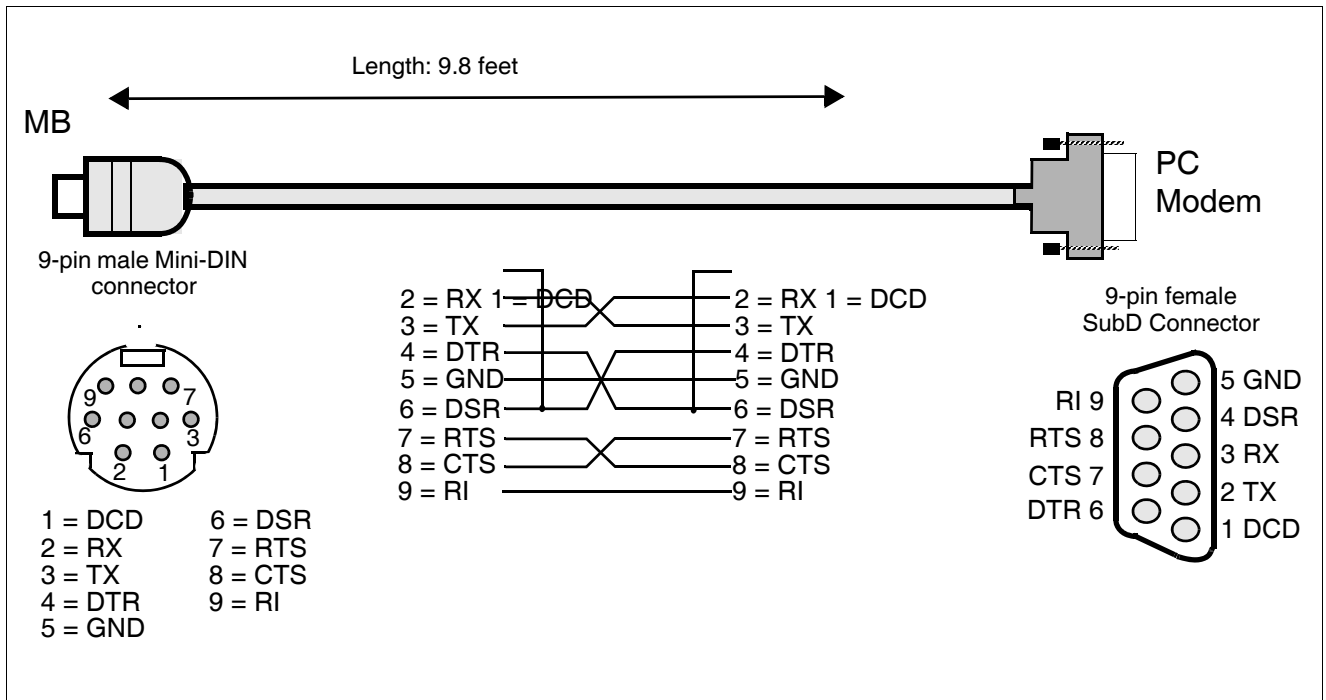


Figure 3-51 Serial cable connection to TME1

TME1 serial cable signals

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

Table 3-44 TME1 serial cable signals

3.12.4 Adapter cable for analog modem

This is a serial cable for connecting the Trendnet V.92 56K - TFM-560X or D-Link V.90 56K - DFM - 560EL modem on the HiPath 1100 using the V.24 cable.



The maximum total length of the cable and of the interface V.24 should not exceed 15 metros

You must configure/check the starting position of the modem connected to the switch via HiPath 1100 Manager.

If the modem is connected to the PC (remote modem), the modem cable should be used and the initialization code set using CommServer.

This information can be obtained from the modem's instruction manual.

In the **Reset** field the default setting for these modems is as follows:

- US-ROBOTICS: ATZH0
- TrendNet: ATZH0
- D-LINK: +++,,,ATHATZH0

In the **Initialization** field, the default setting for these modems is as follows:

- US-ROBOTICS: AT&F0&B1F1S0=0
- TrendNet: AT&F0&B1F1&D0S0=0.
- D-LINK: AT&F0&D0S0=0

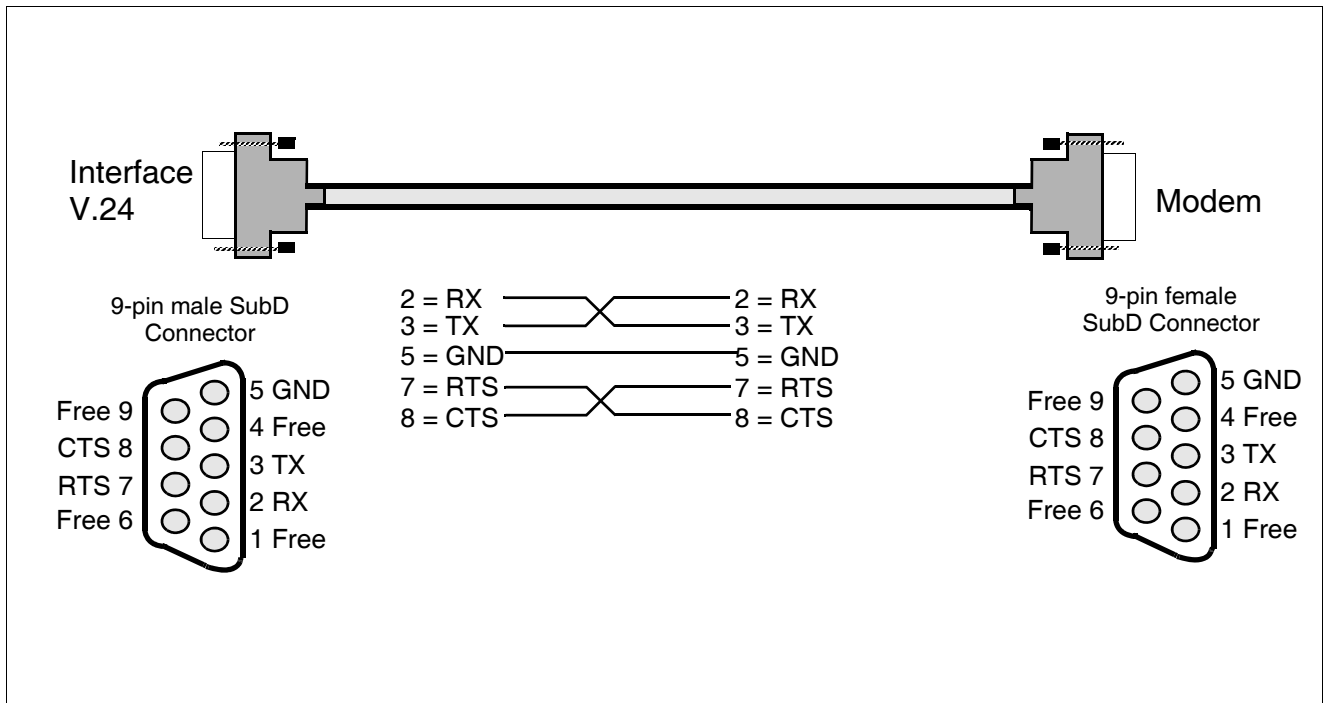


Figure 3-52 Connection system of the serial cable to the analog modem.

Serial cable to modem signals

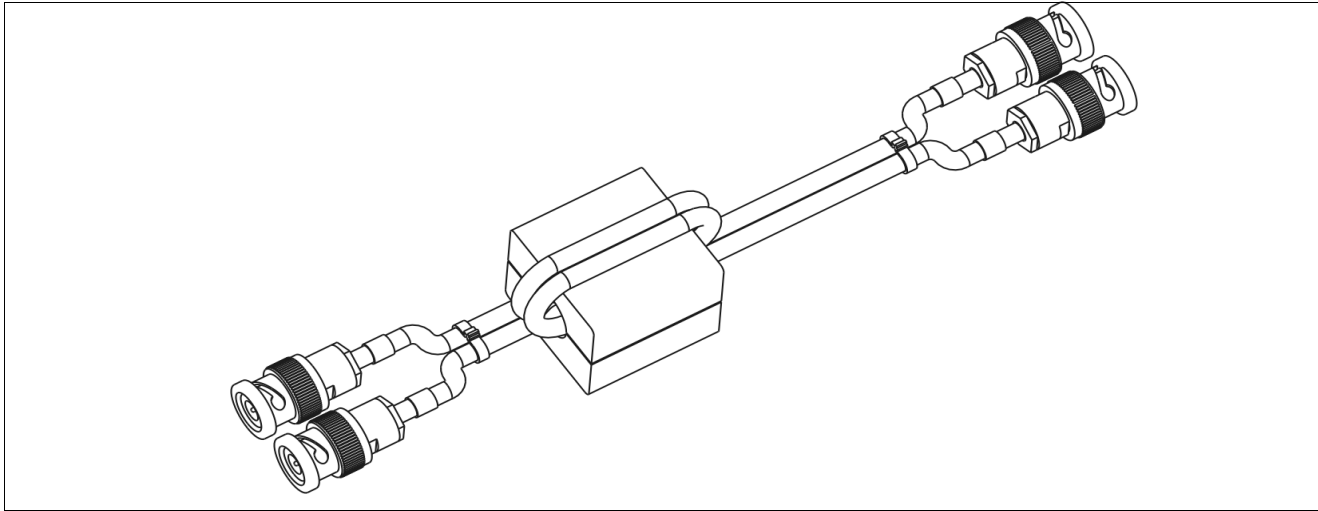
Pin	Signal
CTS	Clear To Send
GND	Ground
RTS	Request to send
RX	Receive Data
TX	Transmit Data

Table 3-45 Serial cable to modem signals

3.12.5 TME1 Coax Cable

3.12.5.1 CAS Access

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



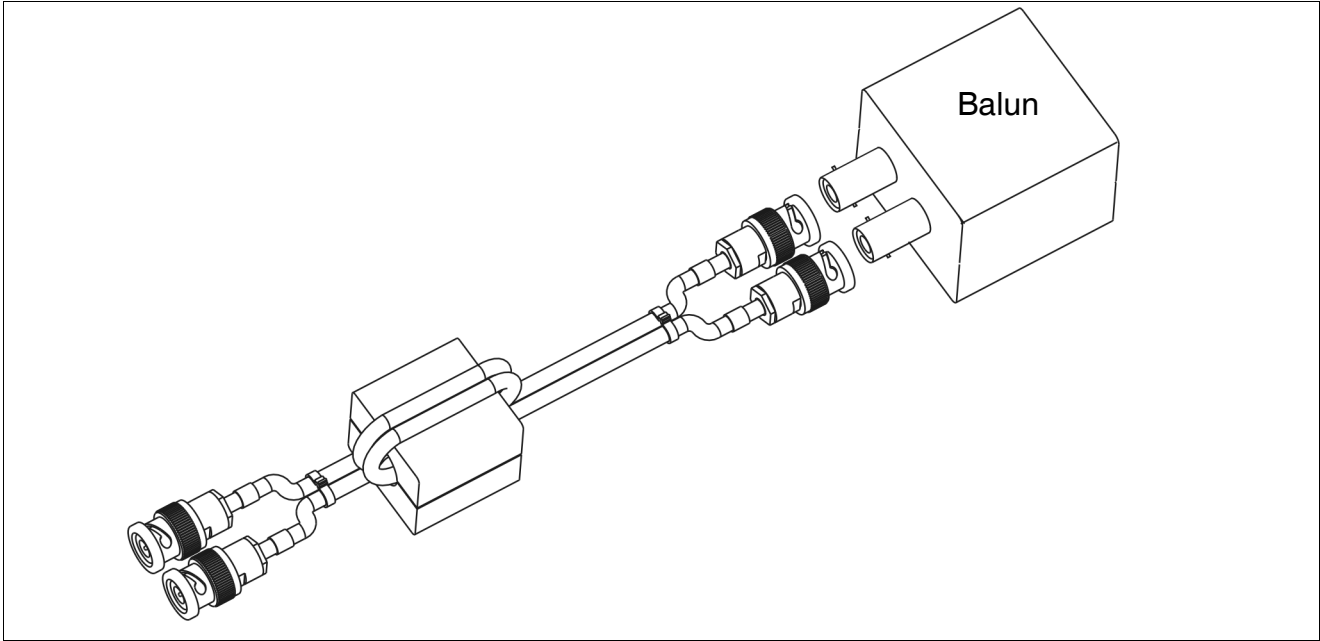
TME1 coax cable signals

Pin	Signal
RX	Receive Data
TX	Transmit Data

Table 3-46 TME1 coax cable signals

3.12.5.2 S2 access

The TME1 coax cable is used for connecting to the S2 interface with an NT modem. If there is a different impedance between the module and the modem, you must use the Balun.



TME1 coax cable signals

Pin	Connector	Signal
RX	J1	Receive Data
TX	J2	Transmit Data

Table 3-47 TME1 coax cable signals

Balun

You must use the balun on the TME1 coax cable if there is any impedance differential between the TME1 and the NT1 modules.

Technical Data

Speed	up to 2,048 Mbps
Insulation	100V
Connectors	Coaxial (Interface A): Dual BNC F(RG 59) Twister - pair (Interface B): 8 - pin shielded RJ 45

Modules
Interconnect cables

Speed	up to 2,048 Mbps
Tolerance temperature	32 to 122°F
Transmission line	ITU CTR -12 G.703
Tolerance humidity	5 to 95%

Table 3-48 Technical data of the balun.

3.12.6 Battery interconnect cables (BBU)

Battery to PSU interconnect cables

These cables are used to link the batteries to the power supply of the HiPath1150/1190/1190R (see Chapter 4.8, “Installing the power supply” on page 4-158).

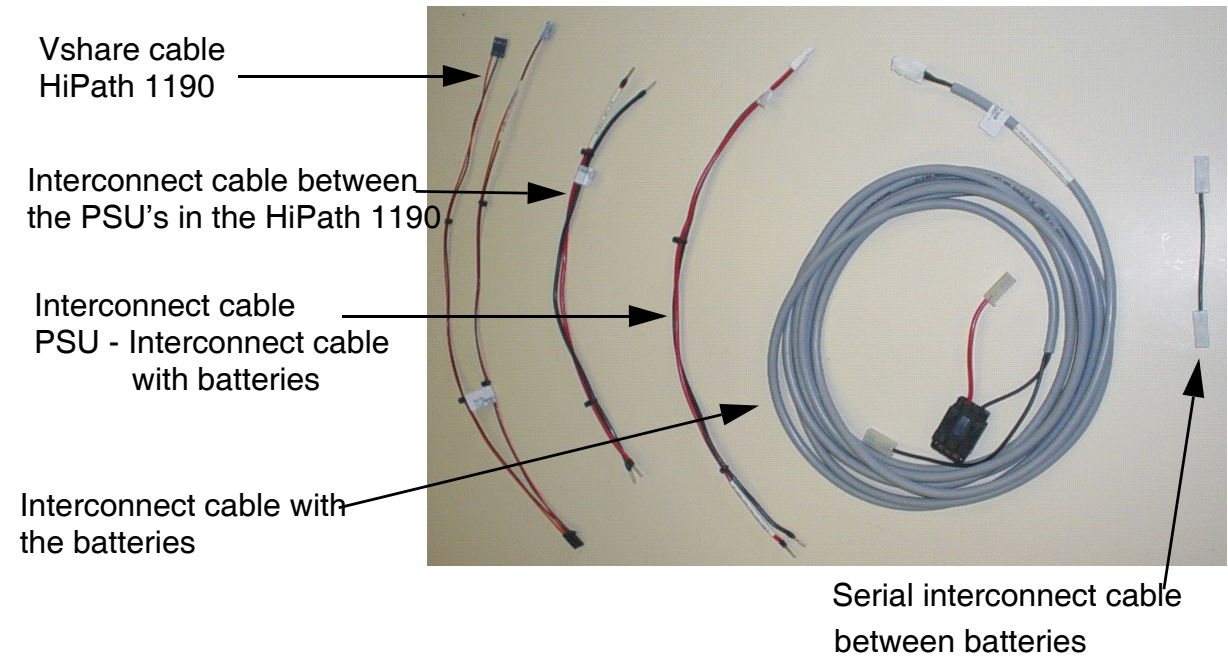


Figure 3-53 Battery interconnect cables (BBU)

Technical data on interconnect cable with the batteries

This protects against power surges.

Fuse of the interconnect cable	7.5A (uniVAL - manufactured by MTA)
Length of the interconnect cable	16.4 feet

Table 3-49 Technical data of the battery interconnect cable

3.12.7 Power supply cable of the PSU - HiPath1150/1190/1190R

The ferrite that comes with the cable must also be installed (see Chapter 4.8, “Installing the power supply” on page 4-158).

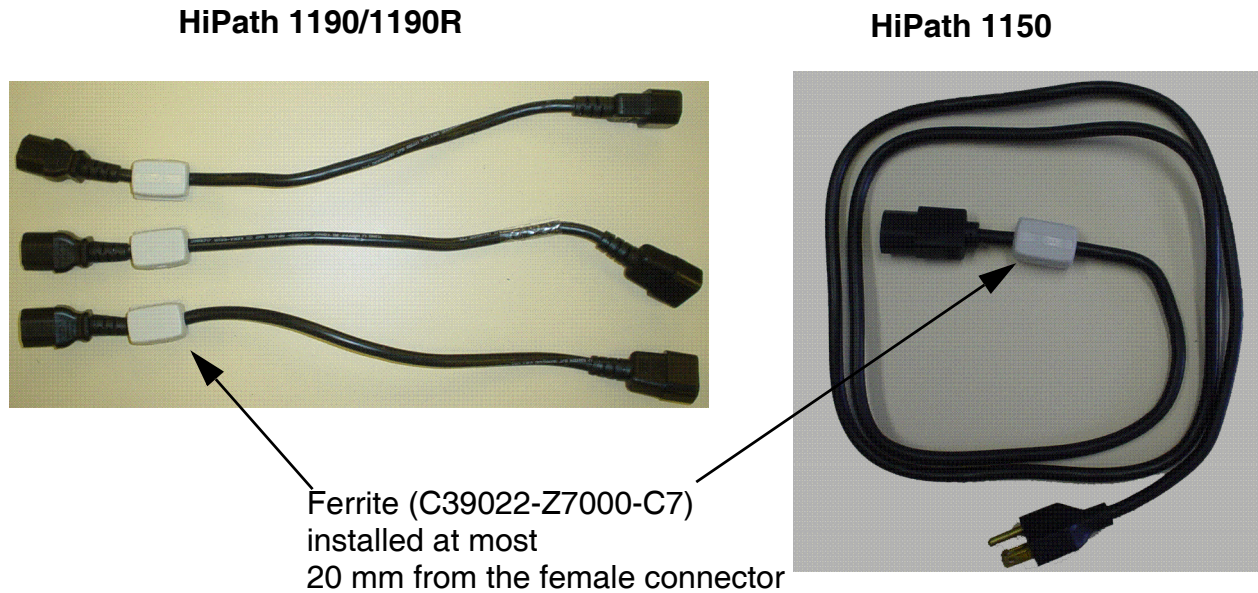


Figure 3-54 Power supply cable of the PSU - HiPath 1150

Modules

Interconnect cables

4 Installation

4.1 HiPath 1100 Installation

About this Chapter

This chapter contains information on:

- Installing the interface HiPath 1100. More information on additional equipment and expansions can be found in the “List of modules” on page 3-41
- 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, please 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 put user safety at risk.
- Check whether all AC and DC connections of the cables, modules and chassis of the HiPath 1100 are correctly and properly connected before connecting the client interface.

Step	Installation procedures (Information)	
1.	“Select the location for installing the equipment” (Usually already defined)	4-125
2.	“Unpacking system components”	4-126
3.	“Getting to know your systems”	4-126
4.	“HiPath1120/1150 wall mounting instructions”	4-135
5.	“Installing modules”	4-136
6.	“Installing the power supply”	4-158
7.	“Connections to the system’s MDF”	4-165
8.	“Installing a V.24 Interface”	4-172
9.	“Installing a USB Interface”	4-173
10.	“Installing an external Audio Source”	4-175
11.	“Installing a TFE - entrance telephone interface”	4-175
12.	“Recommendations concerning the Power Supply and Protection of the System”	4-177
13.	“Protective power outage relays”	4-180
14.	“System cabling”	4-181
15.	“Installing telephone terminals”	4-181
16.	“Performing a visual inspection”	4-184

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 2-38).
- Do not install in vibrating walls.

**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 "Configurations HiPath 1100" on page 2-25 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.
3.	Discard packaging materials according to national 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 of the HiPath 1120

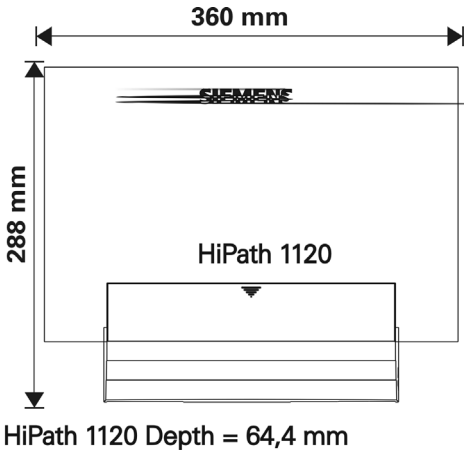


Figure 4-1 Dimensions of the HiPath 1120

Opening the Main Distribution Frame

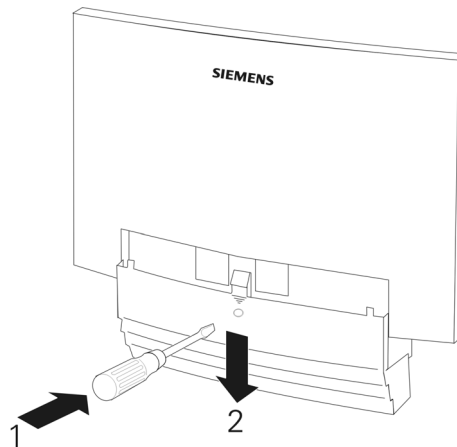


Figure 4-2 Opening the HiPath 1120 Main Distribution Frame

Location of components

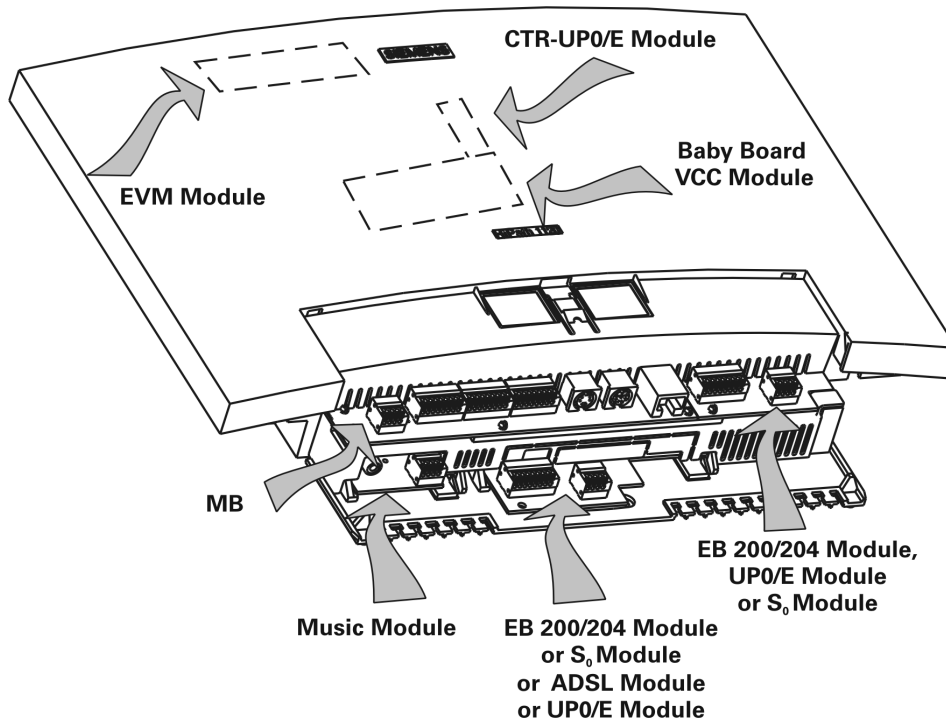


Figure 4-3 System installation overview HiPath 1120

4.5.2 HiPath 1150

Dimensions of the HiPath 1150

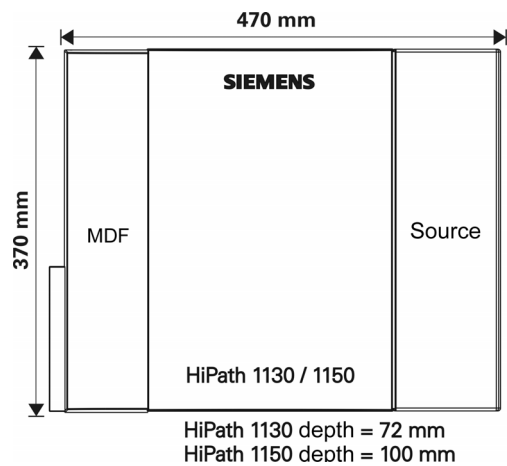


Figure 4-4 Dimensions of the HiPath 1150

Location of components

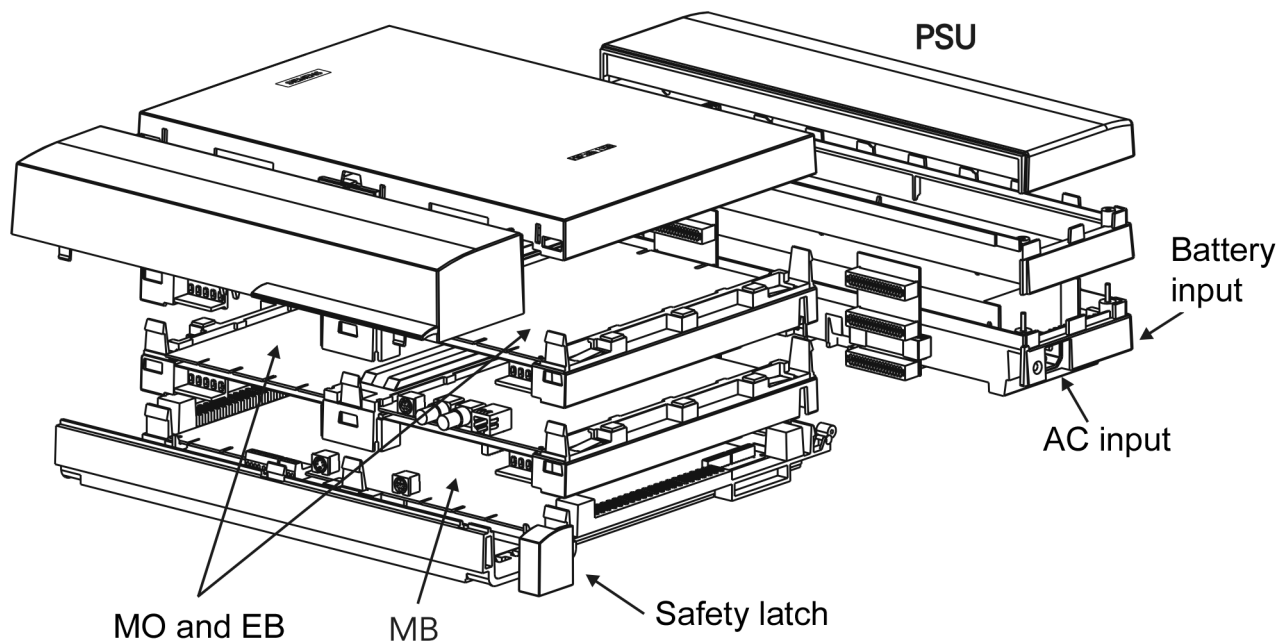


Figure 4-5 System installation overview HiPath 1150

Opening the Main Distribution Frame

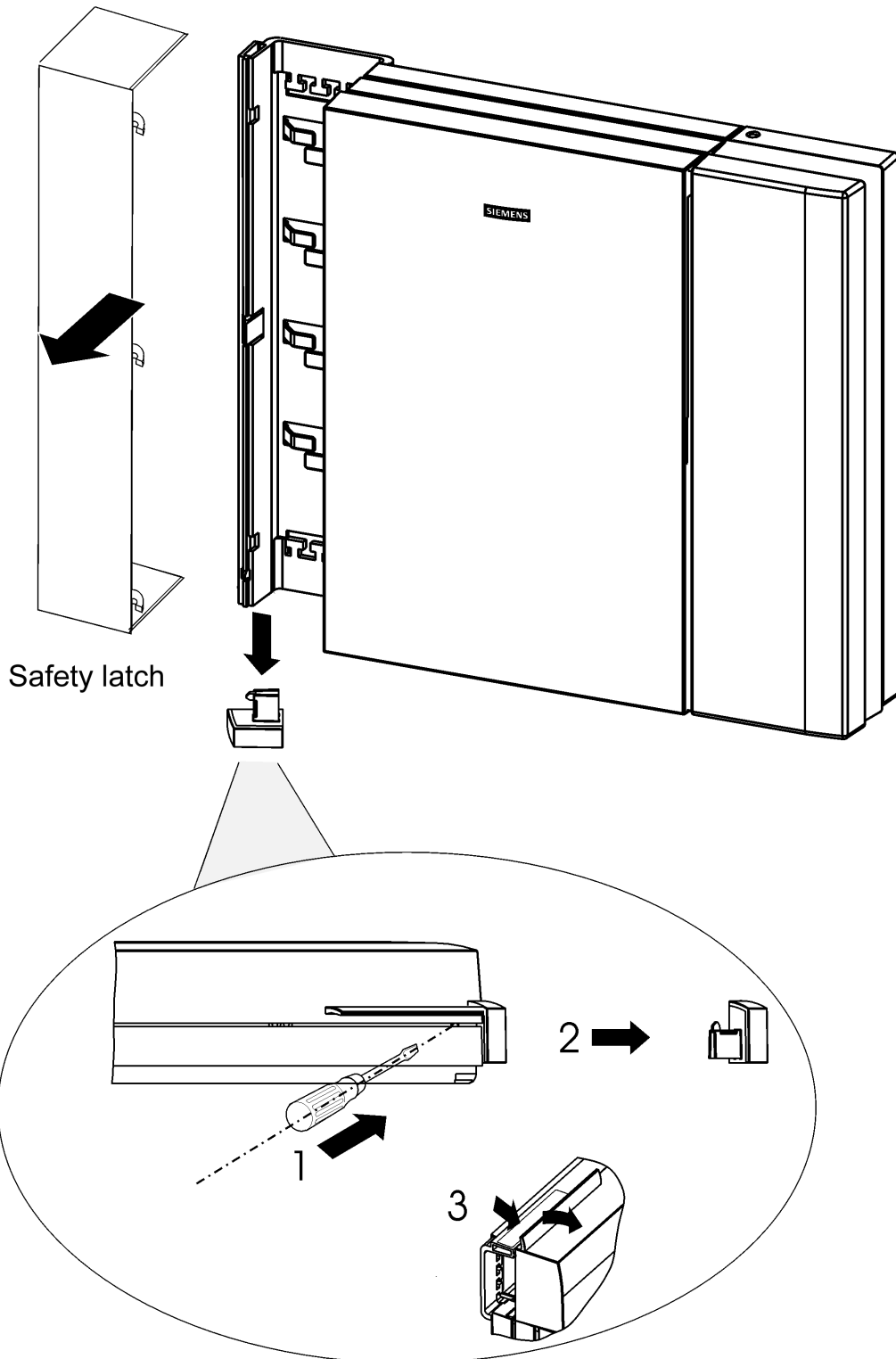


Figure 4-6 Opening the HiPath 1150 Main Distribution Frame

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 HiPath 1190/1190R

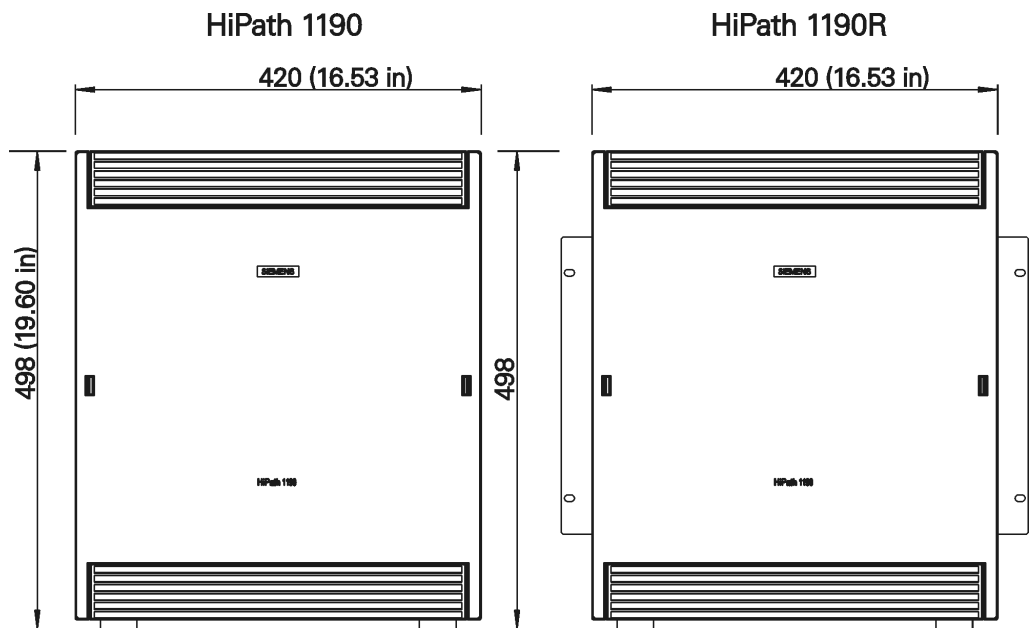


Figure 4-7 Dimensions of the HiPath 1190/1190R

Opening the system cabinet

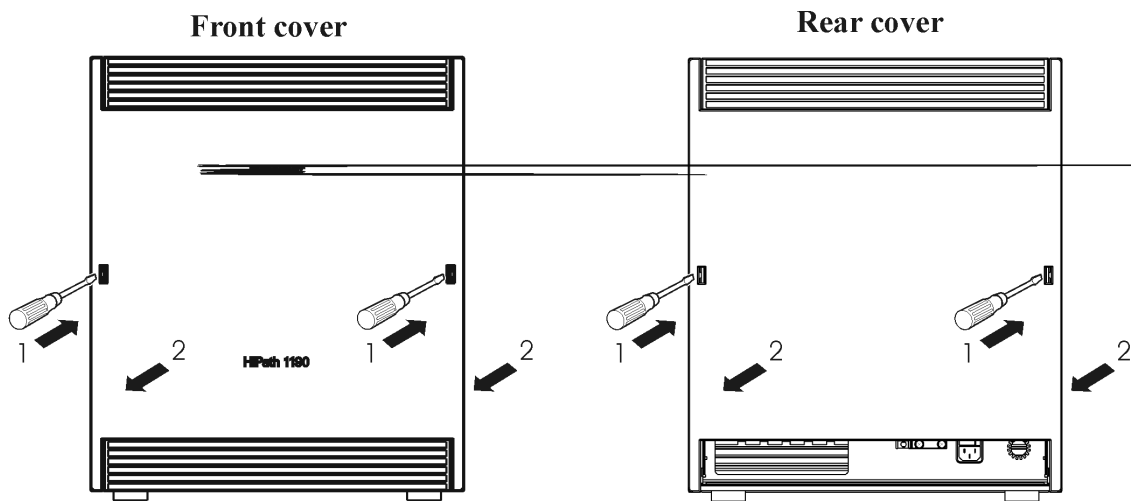


Figure 4-8 Opening the HiPath 1190/1190R

Procedure for opening the cabinet

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

Location of components

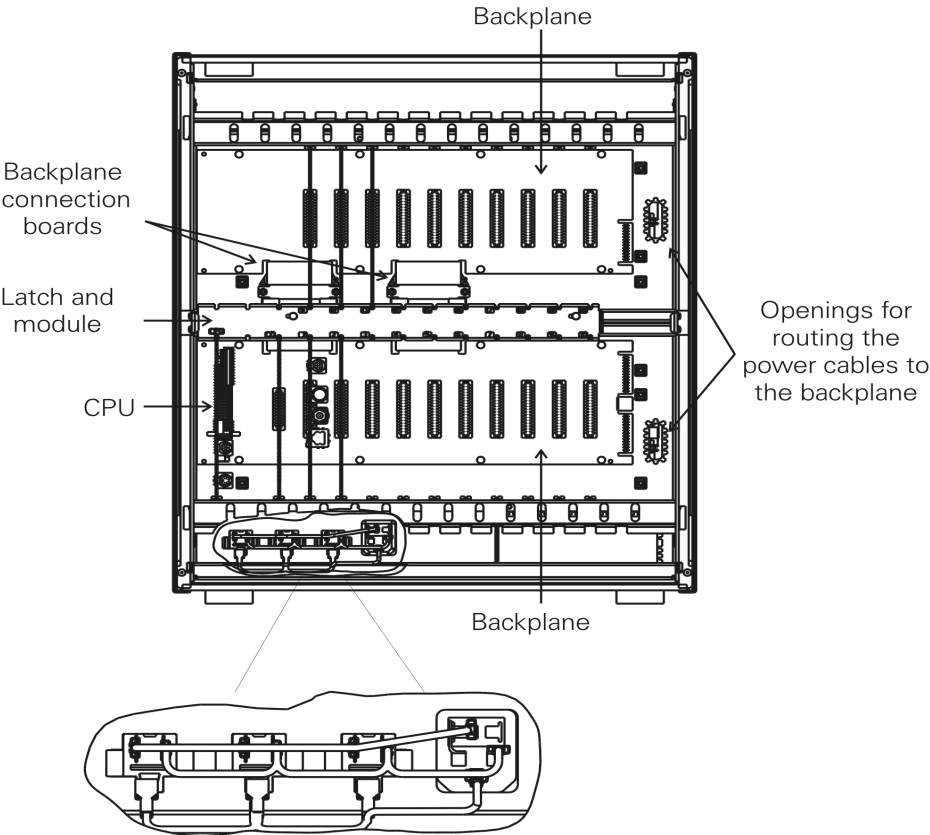


Figure 4-9 HiPath 1190/1190R front view

Installation
Getting to know your systems

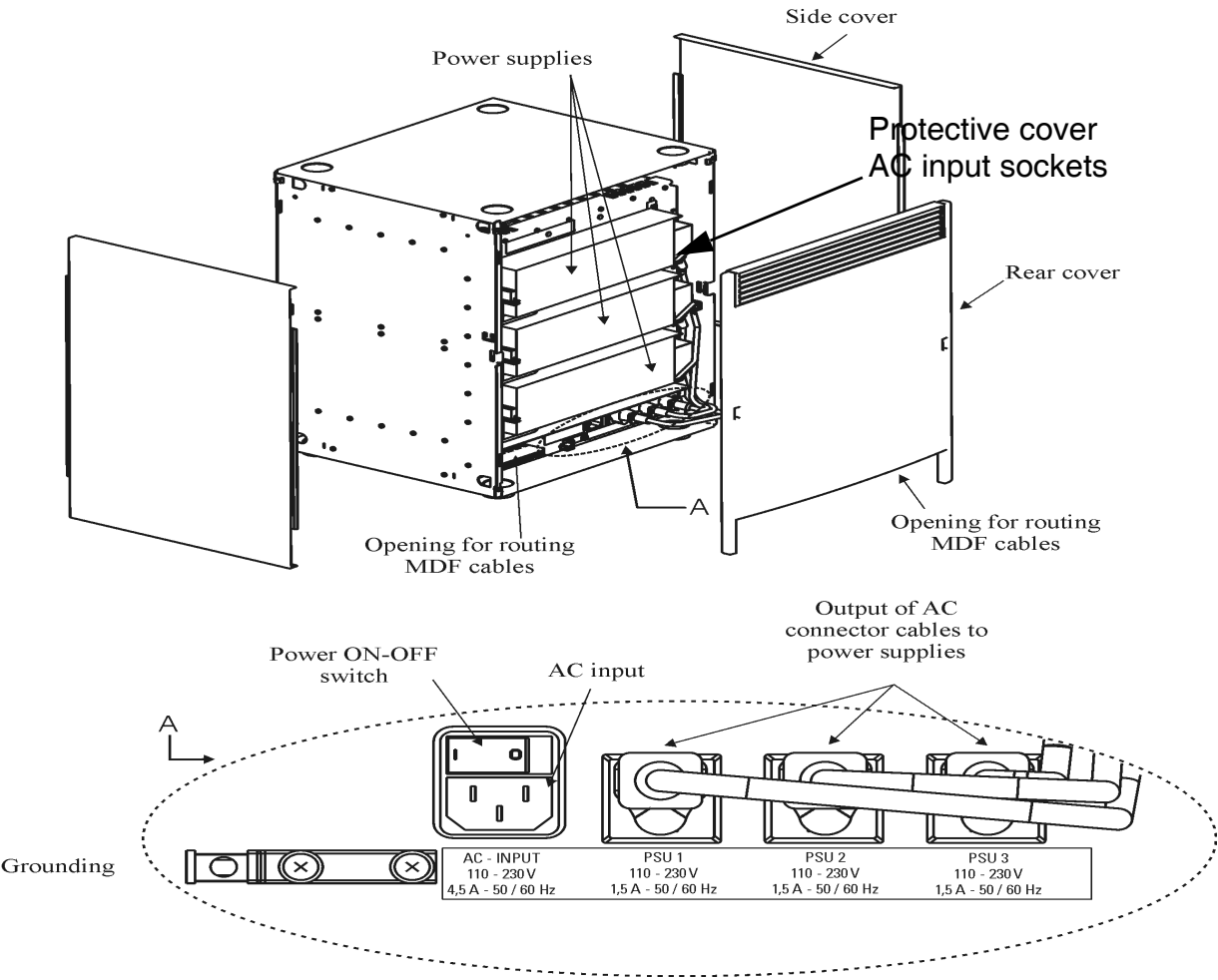


Figure 4-10 HiPath 1190/1190R back view

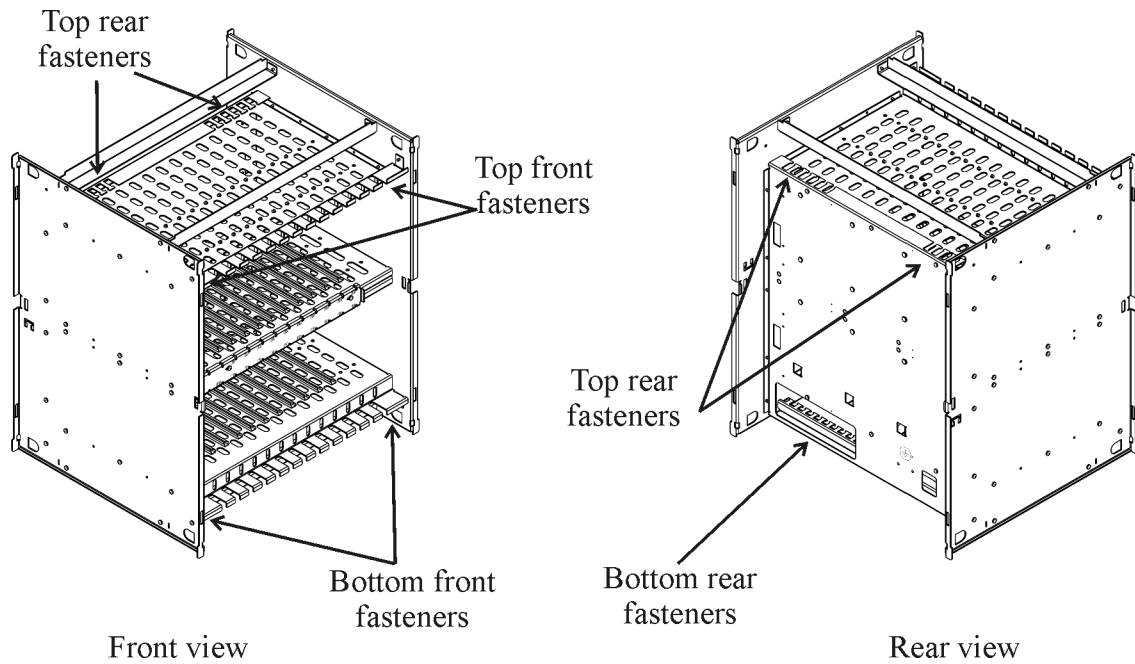


Figure 4-11 HiPath 1190/1190R cable anchors

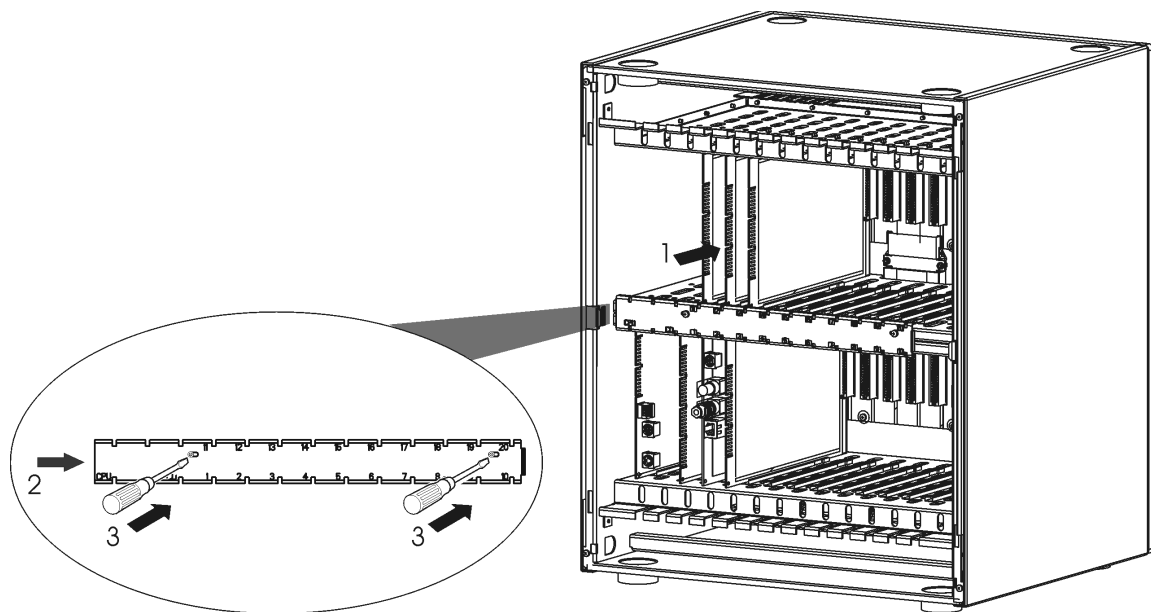


Figure 4-12 Installing modules on the HiPath 1190/1190R systems

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

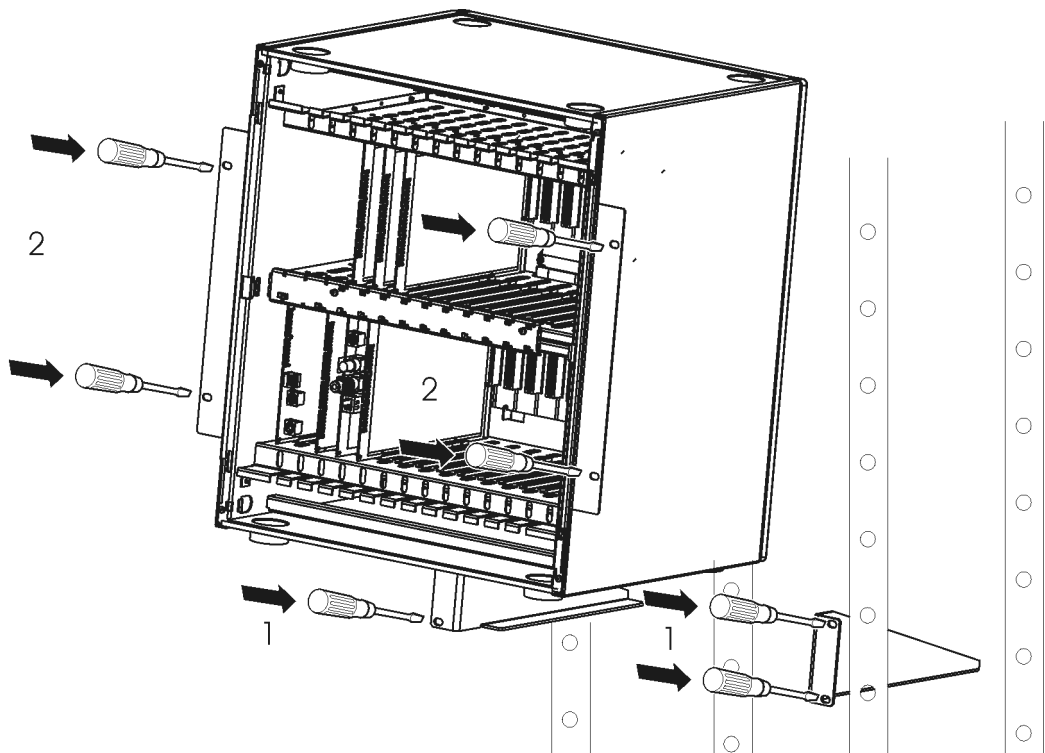


Figure 4-13 Installing the HiPath 1190R on a 19" rack

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 HiPath 1120/1150 wall mounting instructions

Step	Procedure
1.	Drill a hole in the wall at a height of 4.10 ft from the floor.
2.	Place the bushing over the hole then insert the screw and tighten it until only 0.19" 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" protrude.
6.	Hang the system again and align it by tightening the lower screws.

Back of the enclosures

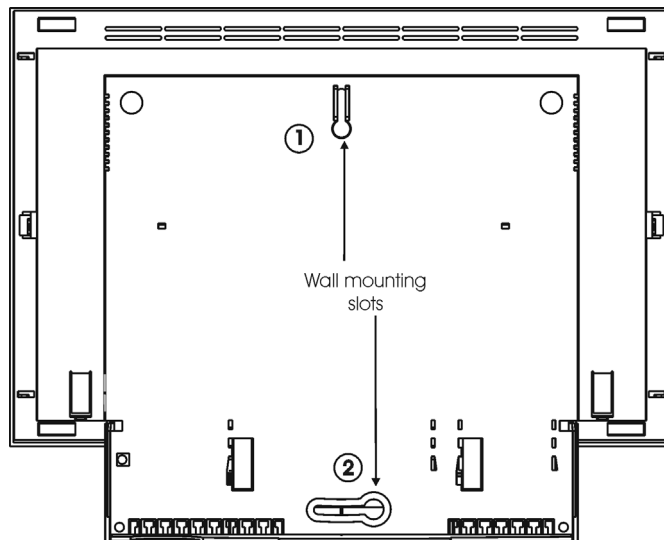


Figure 4-14 Installing the HiPath 1120

Installation

Installing modules

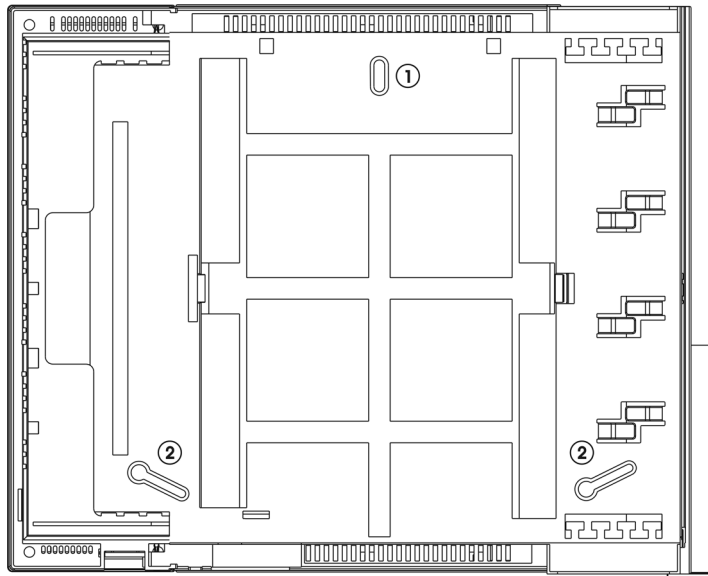


Figure 4-15 Installing the HiPath 1150

4.7 Installing modules

4.7.1 Configuring the HiPath 1100

For each configuration, please consider capacities, availability of modules and their respective features and requirements (see “System expansion limitations” on page 2-28).

To help you configure the systems, we suggest that you use the Service Manual, the HiPath 1100 Manager, in off-line mode, to obtain a visual illustration of the module locations and external lines and the resulting numbering plan (see Help - Advanced Configuration/PABX Information for further information).

4.7.2 Location of the modules

Installation information

The MB and HiPath 1120 system modules are interconnected through a flat cable and/or pin Connector. In the HiPath1150/1190/1190R systems, the modules are interconnected through the backplane Connector

For information on expansions and system settings, see “System expansion limitations” on page 2-28.



Warning

Insert modules only when the power supply is turned OFF.

4.7.2.1 In the HiPath 1120

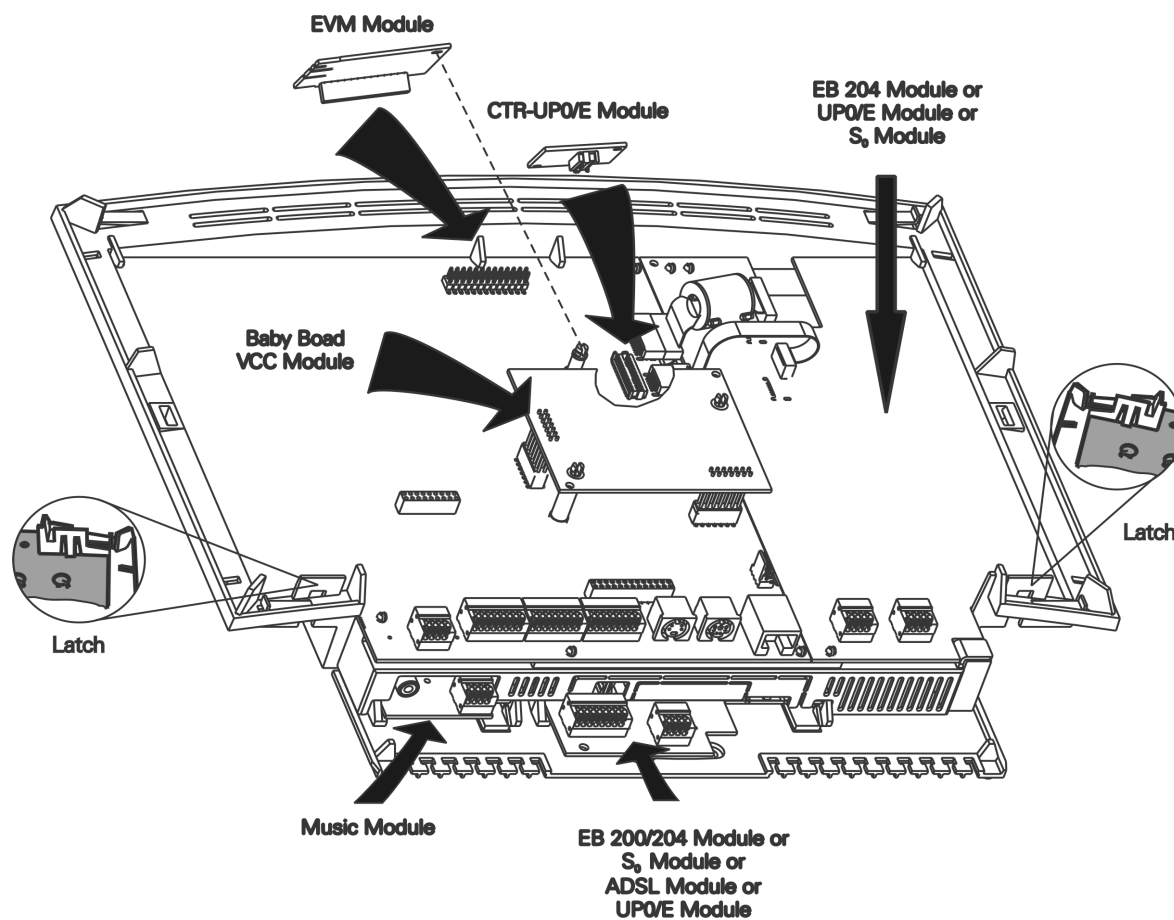


Figure 4-16 Location of modules on HiPath 1120

4.7.2.2 On the HiPath 1150

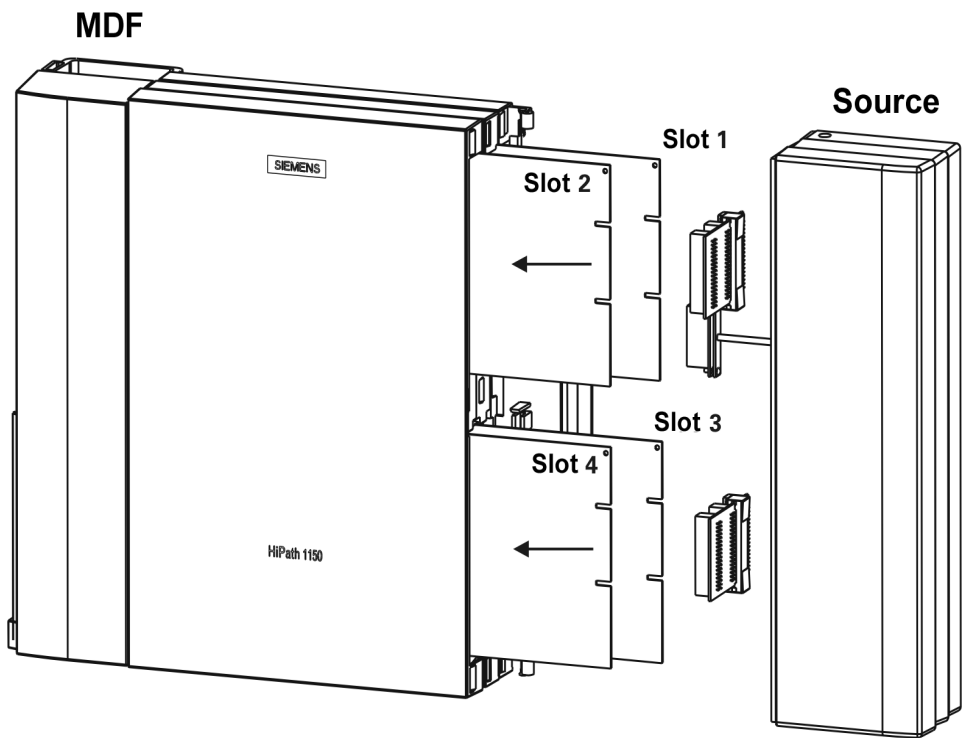


Figure 4-17 Location of modules on HiPath 1150

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

HiPath 1150			
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
Optional modules	U _{P0/E} module	Optional 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
Optional modules	S ₀ module	Optional modules	LAN interface module
	LAN interface module		
	TME1 module		

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

4.7.2.3 On the HiPath 1190/1190R

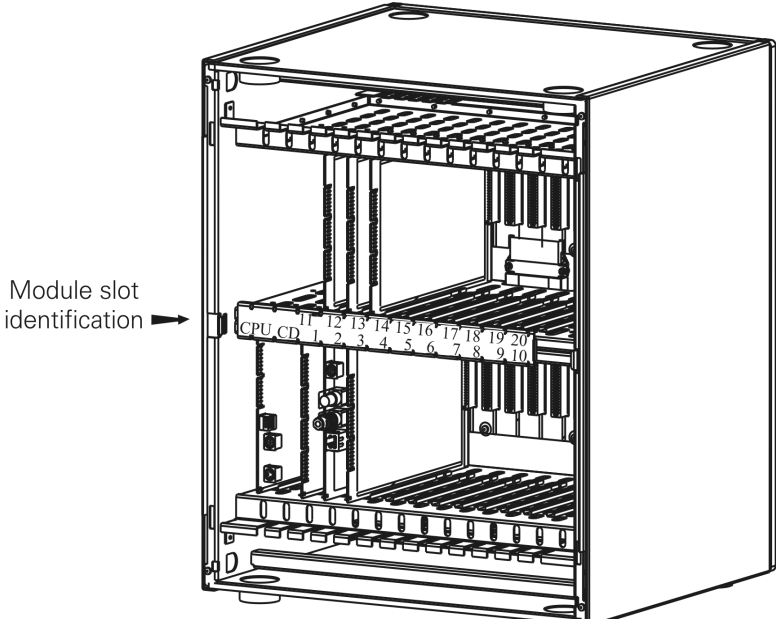


Figure 4-18 Location of modules on HiPath 1190/1190R

Installation

Installing modules

Table 4-3 shows the modules and their slots on HiPath 1190 and HiPath 1190R (see “System expansion limitations” on page 2-28):

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
Optional modules	S ₀ module	Optional modules	LAN interface 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
Optional modules	U _{P0/E} module	Optional modules	U _{P0/E} module
Position 5	Type of module	Slots 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

Position 8	Type of module	Slots 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
Position 11	Type of module	Position 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
Optional modules	S ₀ module		
	TME1 module		
slot 13 and 14	Type of module	Position 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

Installation
Installing modules

Slots 16 and 17	Type of module	Position 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
Slots 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 the CPU have fixed slots on the HiPath 1190/1190R systems. They can be seen on the Modules Latch (Figure 4-18 on page 4-139).

4.7.3 Installing modules

4.7.3.1 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.
5.	To install the LAN interface module or the music module on the bottom slot, lift the top slot and use the pin Connector to make the connection. Use the Flat Cable for all other connections.
6.	Connect to the module's MDF Connectors (see figure 4-39).
7.	Reassemble the entire set.
8.	"Performing a visual inspection" on page 4-184.
9.	Turn on the power supply.
10.	Configure the required data (see "Operation" on page 6-199).

4.7.3.2 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 4-17.
4.	Connect to the module's MDF Connectors (see Figure 4-40).
5.	Reassemble the entire set.
6.	"Performing a visual inspection" on page 4-184.
7.	Turn on the power supply.
8.	Configure the required data (see "Operation" on page 6-199).

Installation

Installing modules

4.7.3.3 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 3-55).
9.	Attach cables to anchors using plastic brackets.
10.	"Performing a visual inspection" on page 4-184.
11.	Reassemble the entire set.
12.	Turn on the power supply.
13.	Configure the required data (see "Operation" on page 6-199).

4.7.4 Installing a TME1 module



Warning

Do not touch the administration serial interface Connector of the TME1 module before disconnecting all analog extensions and external line Connectors. Failure to follow this procedure may expose the user to dangerous voltages. The TME1 module interconnecting cables and Connectors should only be handled by qualified technical personnel.



Remember to set the DIP switches (See "TME1 module" on page 3-67).

Assembly Diagram on the HiPath1150/1190/1190R

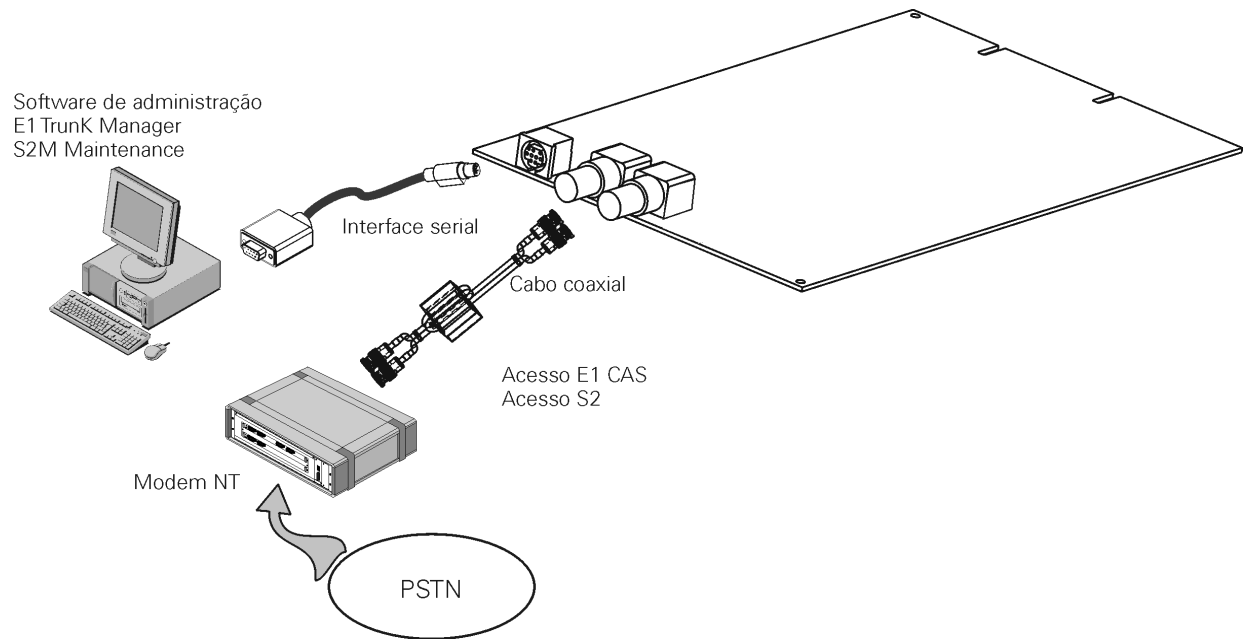


Figure 4-19 Installing a TME1 module

4.7.5 ADSL Connection in the LAN interface modules

4.7.5.1 ADSL module

Connection procedure

Step	Procedure
1.	Connect the carrier's ADSL line to slot 1 and 2 of the X2 Connector.
2.	Connect slots 3 and 4 of the X2 Connector to the external line input for the HiPath 1100.
3.	Connect your network cables to the HUB (J3, J5, J6 and J7 Connectors).

Installation
Installing modules

4.7.5.2 SLIMC, SADSLIM, LIMC and ADSLIM modules

Connection procedure

Step	Procedure
1.	Connect the carrier's ADSL line to slot 1 and 2 of the X11.
2.	Connect slots 3 and 4 of the X11 Connector to the external line input of the HiPath 1100.
3.	Connect the cables of your network PCs to the HUB (X2, X3, X4 and X5 Connectors).

Connections diagram on the HiPath 1120

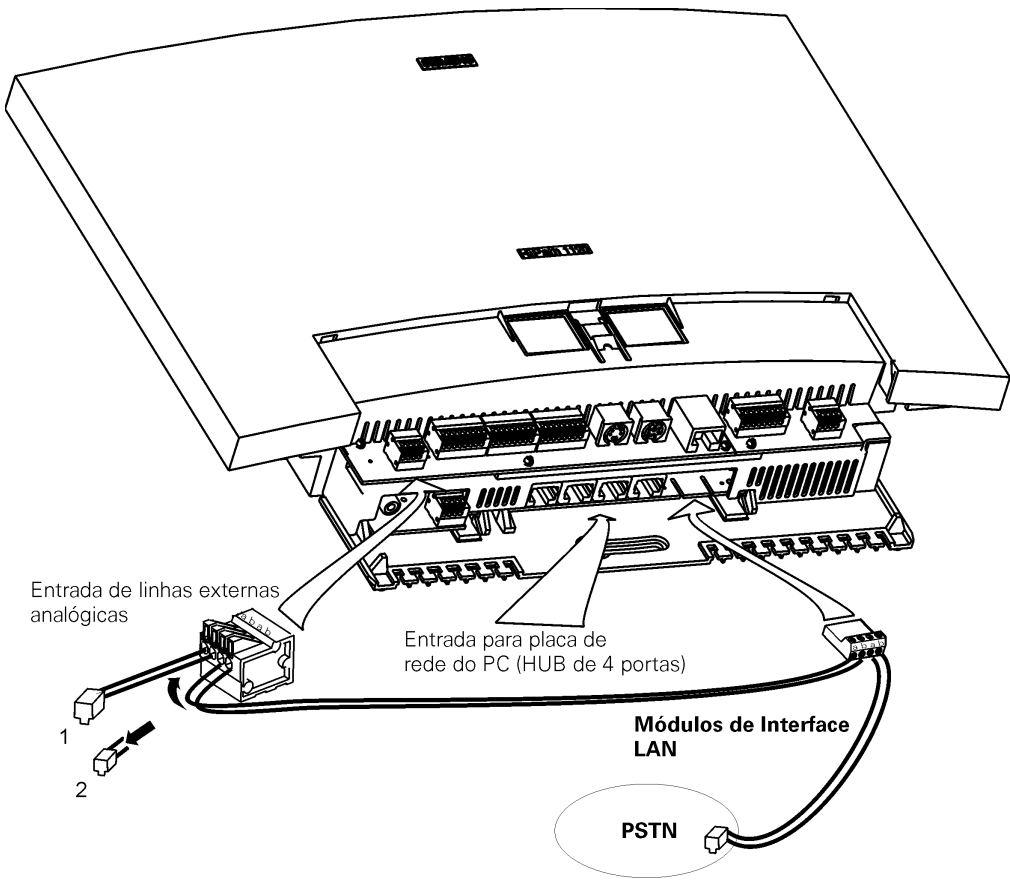


Figure 4-20 ADSL Connection on the HiPath 1120

Connections diagram on the HiPath1150/1190/1190R

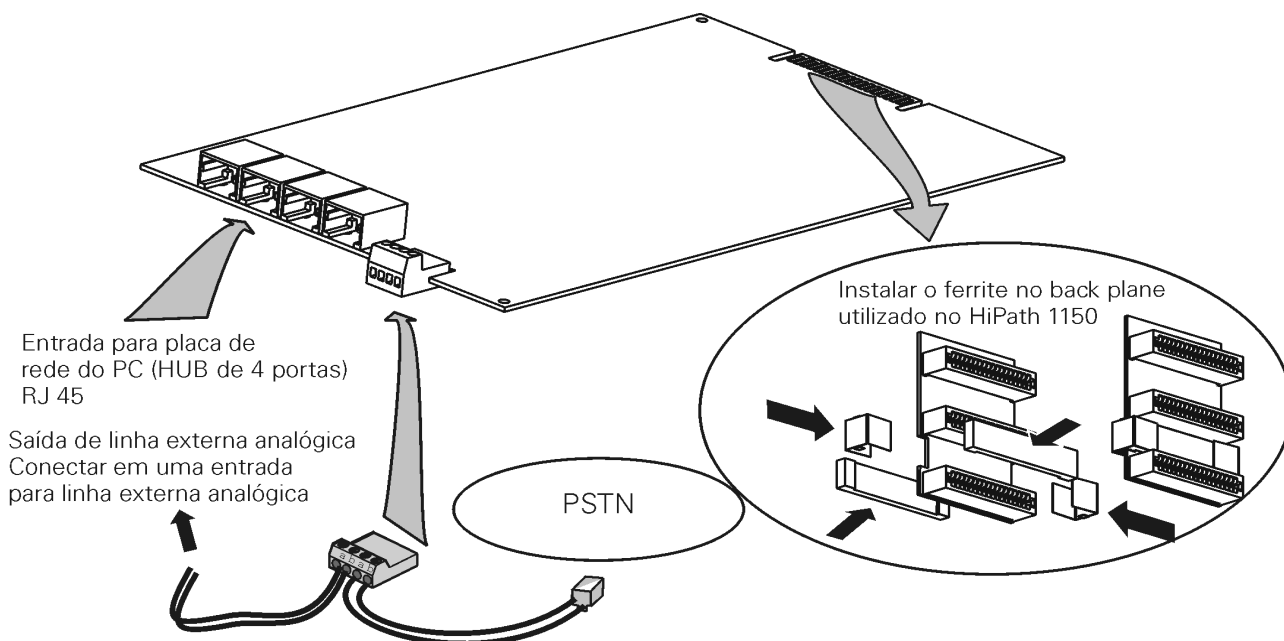


Figure 4-21 ADSL Connection on the HiPath1150/1190/1190R

4.7.6 Installing a Baby Board ADSL module

4.7.6.1 On the HiPath 1120

Installation Procedures

Step	Procedure
1.	Select the SLIMC module.
2.	Attach the separators provided with the module.
3.	Attach the Baby Board ADSL module to the separators.
4.	Connect the cable of the Ethernet Interface to the X6 Connectors.
5.	Connect the cable of the ADSL line to the X14 Connectors.
6.	Connect the power cable of the module Baby Board ADSL to the X7 Connectors.
7.	“Performing a visual inspection” on page 4-184.
8.	Configure the required data (see “Operation” on page 6-199).

Assembly Diagram

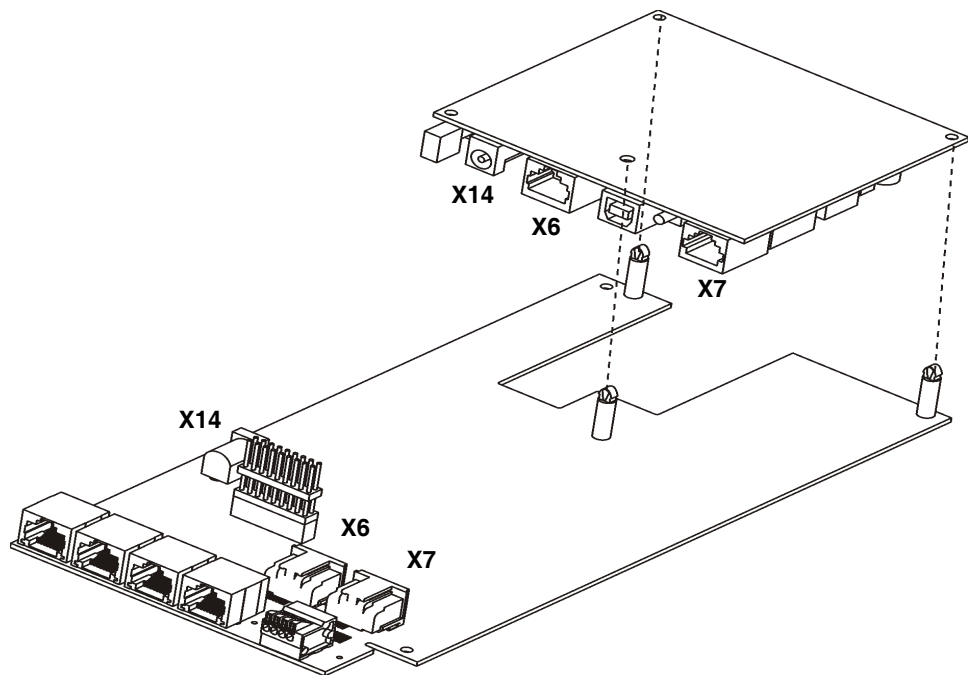


Figure 4-22 Installing a Baby Board ADSLmodule HiPath 1120

4.7.6.2 On the HiPath1150/1190/1190R

Installation Procedures

Step	Procedure
1.	Select the LIMC module.
2.	Attach the separators provided with the module.
3.	Attach the Baby Board ADSL module to the separators.
4.	Connect the cable of the Ethernet Interface to the X6 Connectors.
5.	Connect the cable of the ADSL line to the X14 Connectors.
6.	Connect the power cable of the module Baby Board ADSL to the X7 Connectors.
7.	“Performing a visual inspection” on page 4-184.
8.	Configure the required data (see “Operation” on page 6-199).

Assembly Diagram

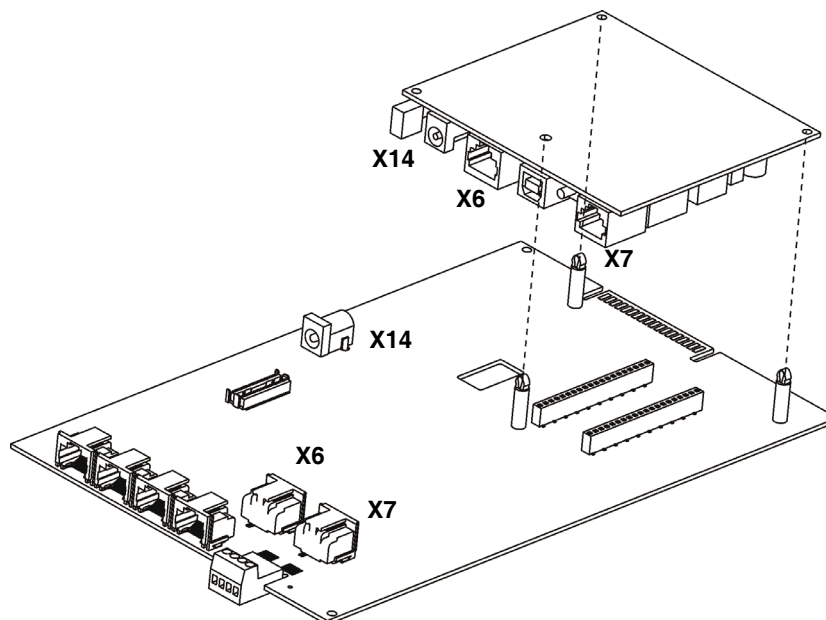


Figure 4-23 Installation module Baby Board ADSL on the HiPath1150/1190/1190R

4.7.7 Installing an EVM 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 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 4-184.
7.	Turn on the power supply.
8.	Configure the required data (see "Operation" on page 6-199).

Installation
Installing modules

Assembly Diagram

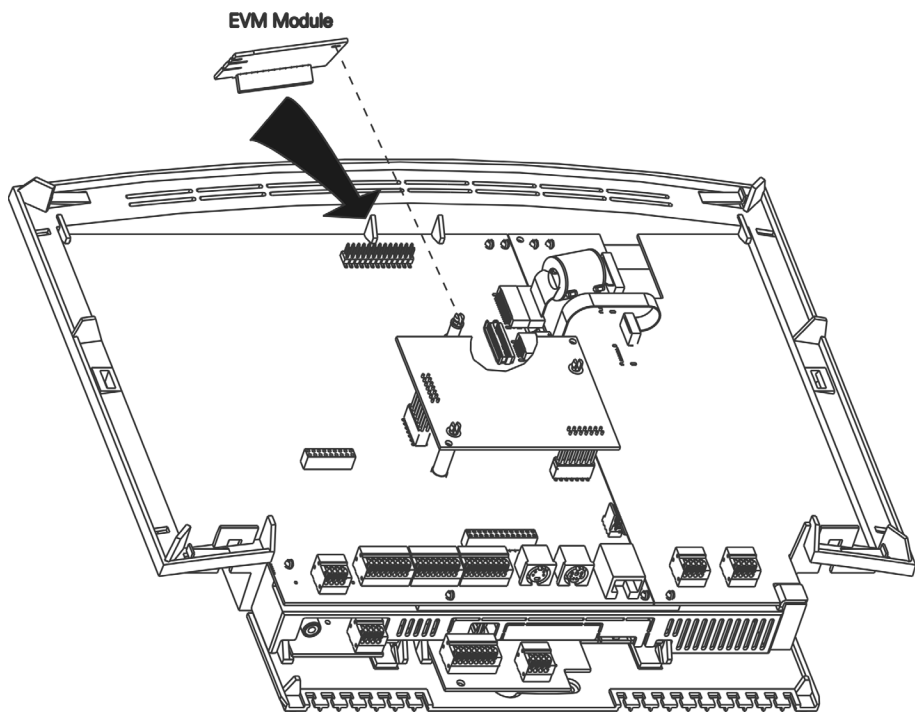


Figure 4-24 Installing an EVM module HiPath 1120

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 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 4-184.
9.	Turn on the power supply.
10.	Configure the required data (see "Operation" on page 6-199).

Assembly Diagram

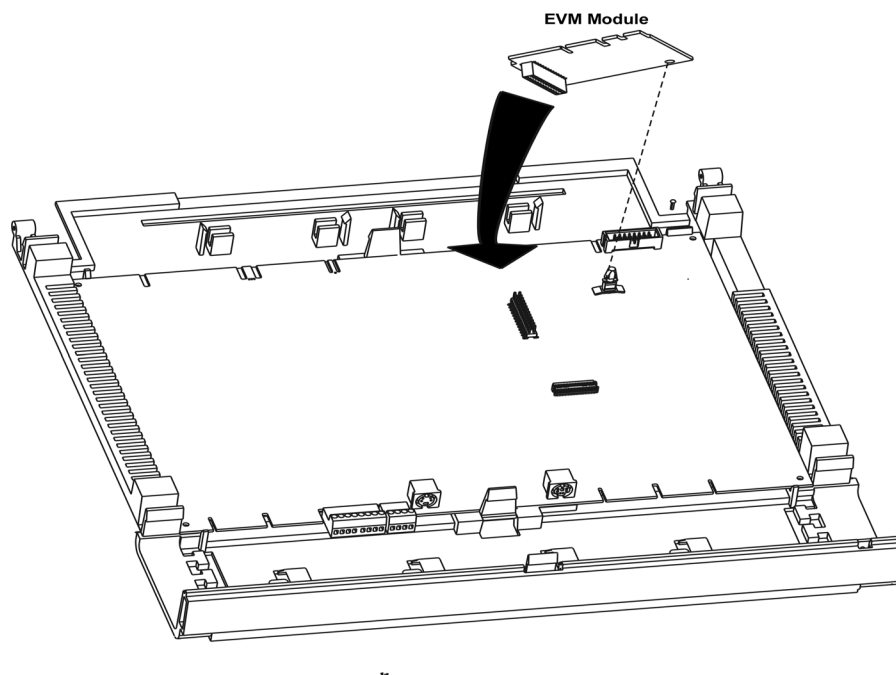


Figure 4-25 Installing an EVM module HiPath 1150

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 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.

Installation
Installing modules

Step	Procedure
11.	Reassemble the entire set.
12.	“Performing a visual inspection” on page 4-184.
13.	Turn on the power supply.
14.	Configure the required data (see “Operation” on page 6-199).

Assembly Diagram

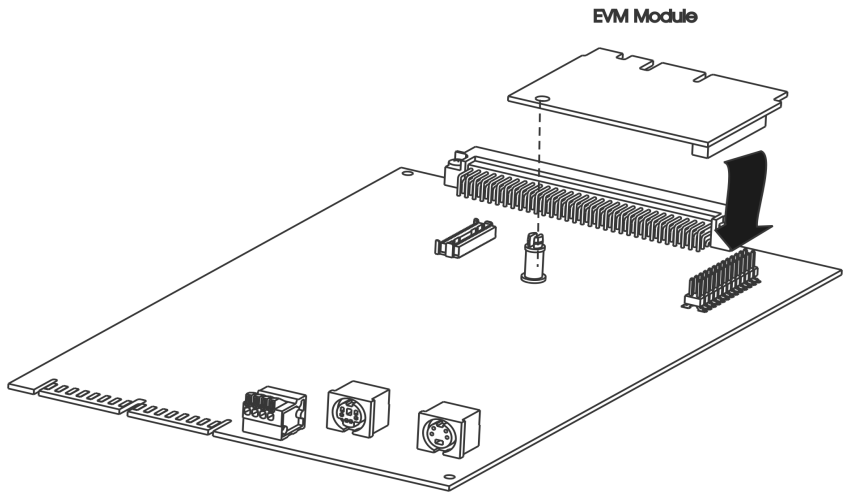


Figure 4-26 Installing an EVM module on the HiPath 1190/1190R

4.7.8 Installing a Baby Board VCC module (Voltage Conditioner Circuitry)

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.	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 4-184.
7.	Turn on the power supply.
8.	Configure the required data (see "Operation" on page 6-199).

Assembly Diagram

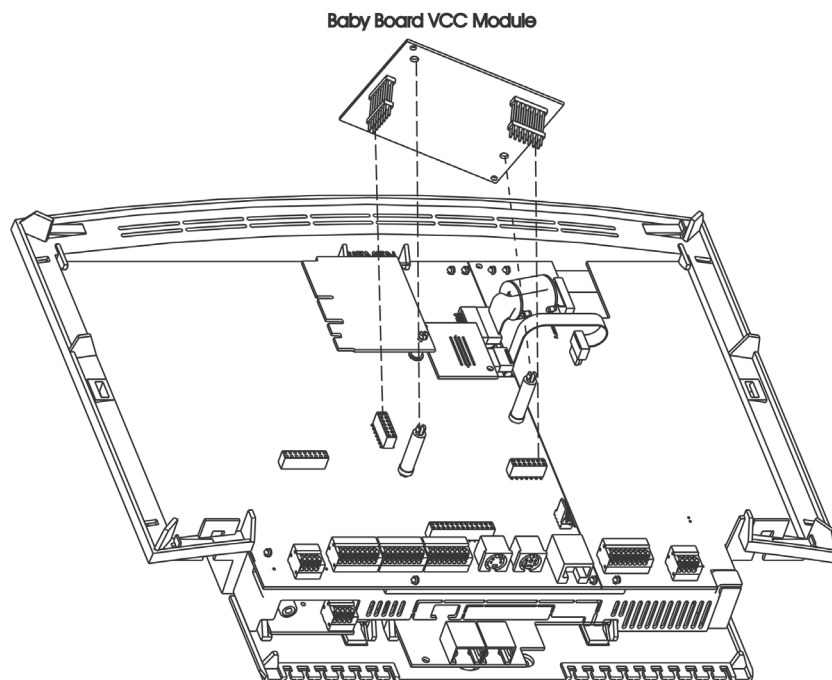


Figure 4-27 Installing a Baby Board VCC module on the HiPath 1120

4.7.9 Installing a CTR- U_{P0/E} module

4.7.9.1 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 corresponding Connector on the MB
4.	Reassemble the entire set.
5.	“Performing a visual inspection” on page 4-184.
6.	Turn on the power supply.
7.	Configure the required data (see “Operation” on page 6-199).

Assembly Diagram

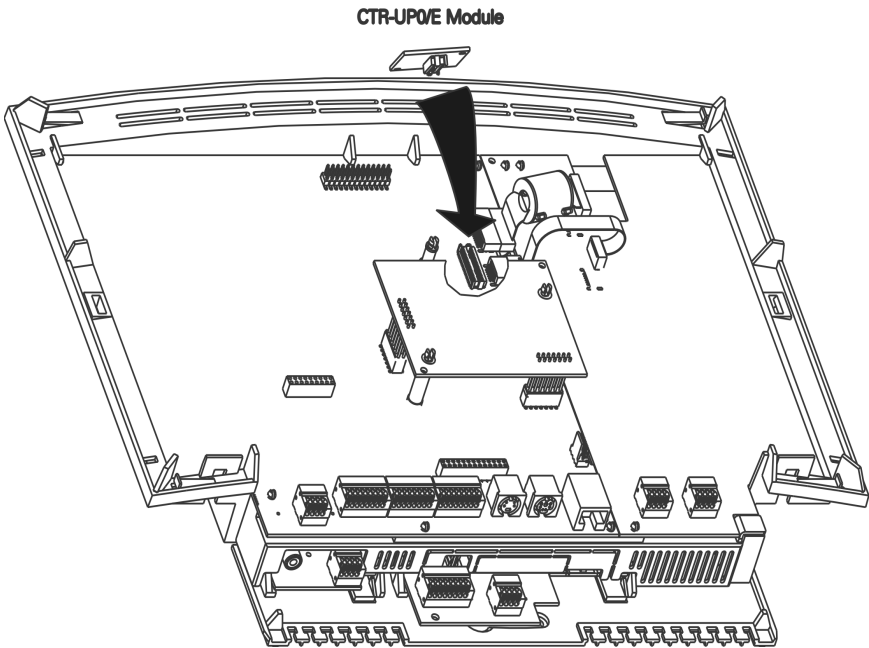


Figure 4-28 Installing a CTR- U_{P0/E} HiPath 1120 module

4.7.9.2 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 corresponding Connector on the MB
6.	Reassemble the entire set.
7.	"Performing a visual inspection" on page 4-184.
8.	Turn on the power supply.
9.	Configure the required data (see "Operation" on page 6-199).

Assembly Diagram

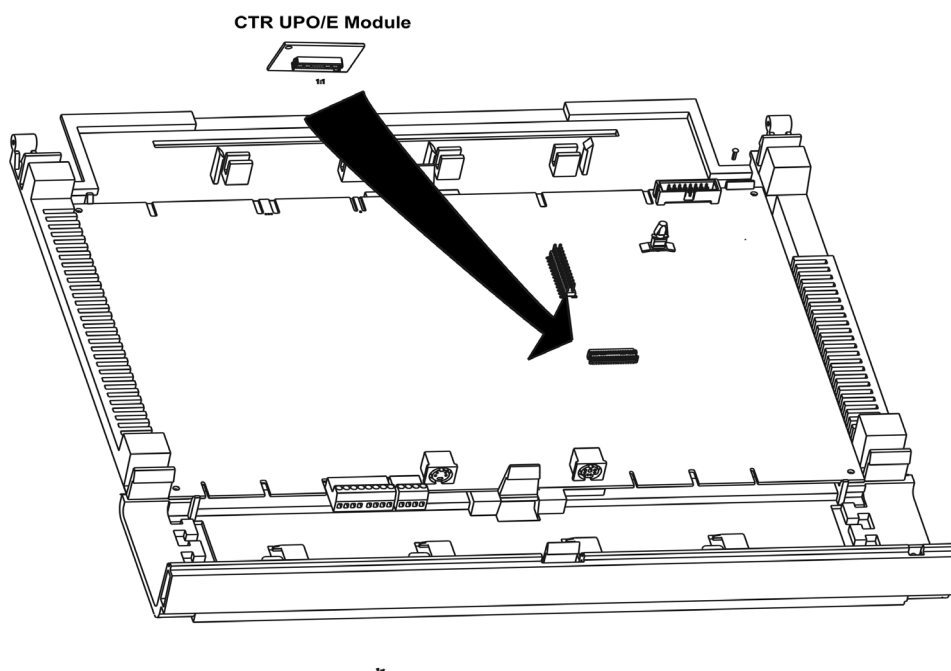


Figure 4-29 Installing a CTR- U_{P0/E} HiPath 1150 module

Installation
Installing modules

4.7.9.3 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 module to the corresponding 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.
11.	"Performing a visual inspection" on page 4-184.
12.	Turn on the power supply.
13.	Configure the required data (see "Operation" on page 6-199).

Assembly Diagram

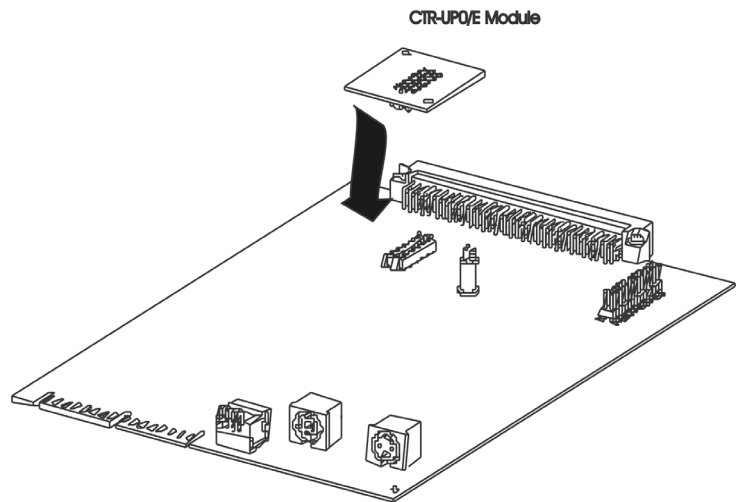


Figure 4-30 Installing a CTR- UP₀/E module on the HiPath 1190/1190R

4.7.10 Installing a Music module

4.7.10.1 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 4-31.
5.	Attach the MB to the module.
6.	Make the connections to the appropriate module Connector (See "Music module" on page 3-89).
7.	Reassemble the entire set.
8.	"Performing a visual inspection" on page 4-184.
9.	Turn on the power supply.
10.	Configure the required data (see "Operation" on page 6-199).

Assembly Diagram

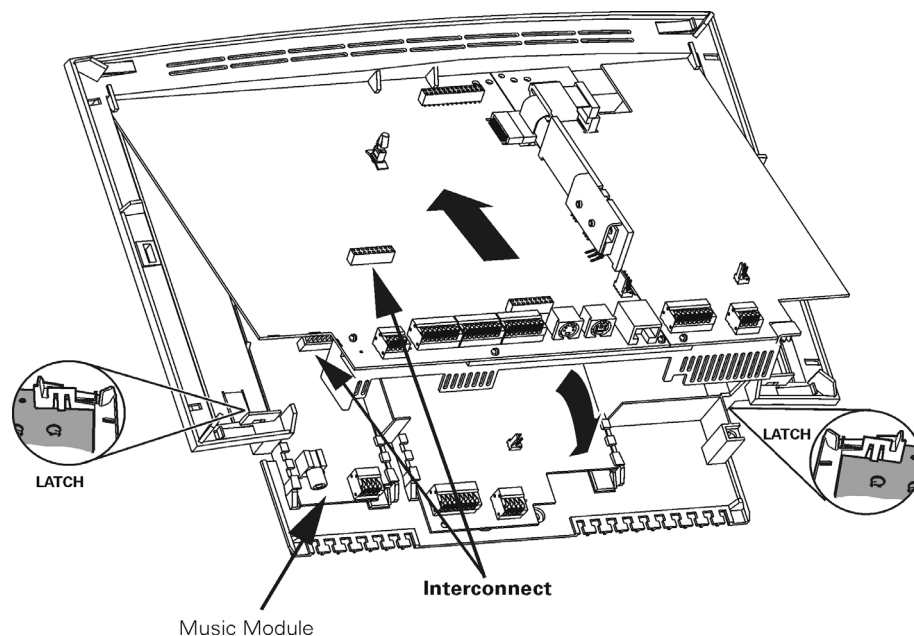



Figure 4-31 Installing a Music module HiPath 1120

4.8 Installing the power supply

Introduction




Before connecting the power supply to the system, see “Technical Data” on page 2-36 “ and “Power Supply Unit (PSU)” on page 3-91.

4.8.1 On the HiPath 1120

Installation Procedures

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 4-184
4.	Configure the required data (see “Operation” on page 6-199).



Warning
Use the cable of the power supply to turn system power on or off.

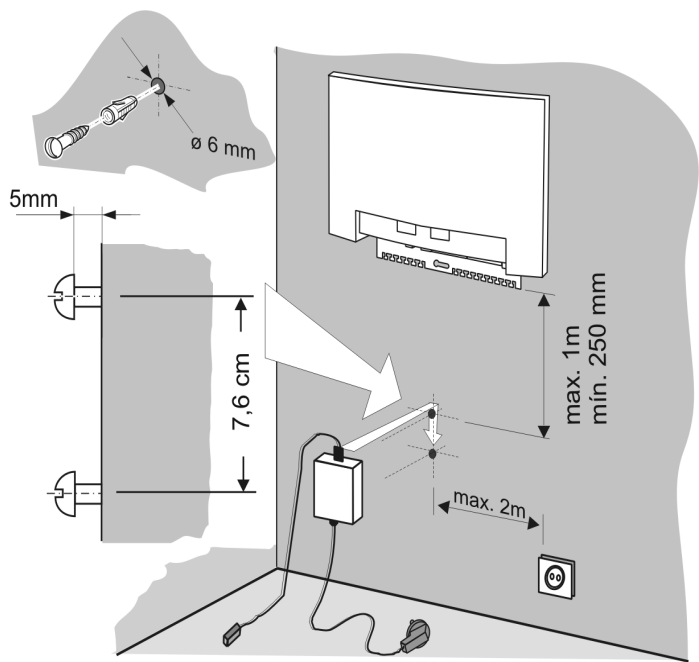


Figure 4-32 Installing a power supply on the HiPath 1120

4.8.2 On the HiPath 1150

Installation Procedures

Step	Procedure
1.	Check network voltage
2.	Install the ferrite (C39022-Z7000-C7) in the AC power cable of the PSU at most 20 mm from the female connector (see Figure 4-35 on page 4-160).
3.	If the voltage is within the power supply's voltage range, connect the power supply.
4.	If the power supply has a battery input socket (BBU) or if you have acquired the BBU extension kit (S30817-H853-B401-*), please connect them as indicated in "Installing the batteries" on page 4-164.
5.	"Performing a visual inspection" on page 4-184
6.	Configure the required data (see "Operation" on page 6-199).



Warning

Use the cable of the power supply to turn system power on or off. If batteries are installed, they should also be turned on or off.

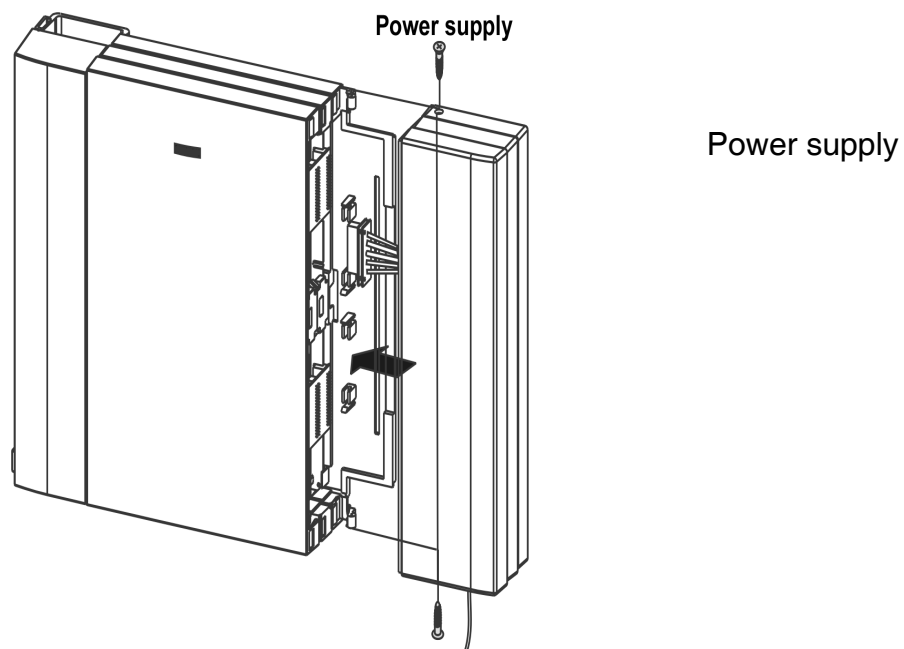


Figure 4-33 Installing the PSU HiPath 1150

Installation
Installing the power supply

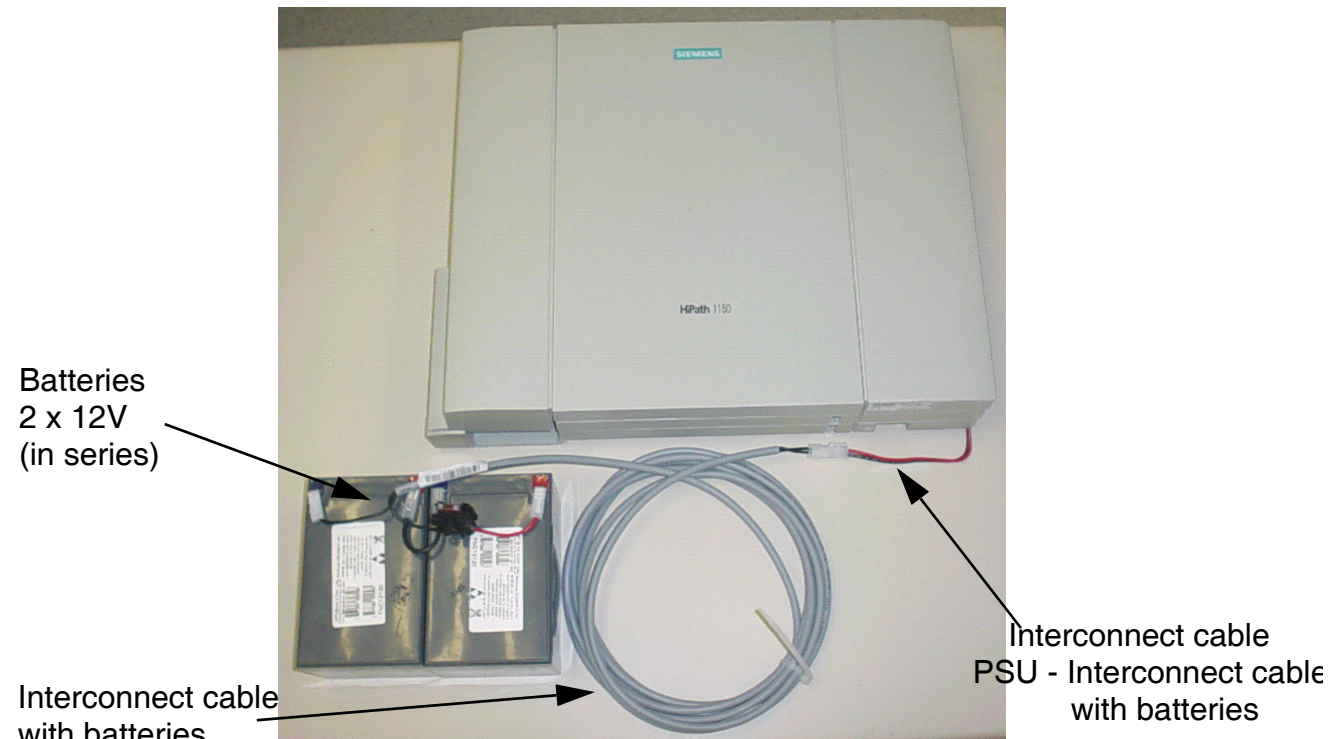


Figure 4-34 Installation of the PSU HiPath 1150 with BBU

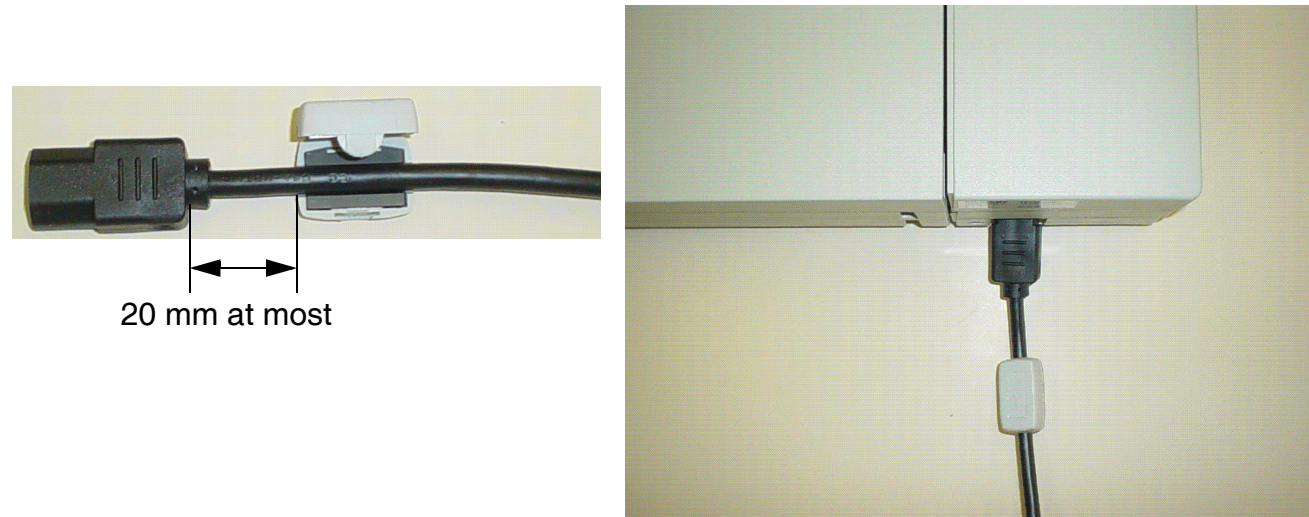


Figure 4-35 Power cable of the PSU with BBU - HiPath 1150

4.8.3 On the HiPath 1190/1190R

Installation Procedures

Step	Procedure
1.	Check network voltage
2.	Remove the system's back cover.
3.	<p>If the voltage is within the power supply's range, insert the power supply into the slots shown in figure 4-36.</p> <p>Warning: All power supplies must be of the same model (with or without batteries).</p>
4.	Pass the power supply connectors through the openings in the back of the system (see figure 4-9).
5.	Install the ferrite (C39022-Z7000-C7) in the AC power cable of each PSU at most 20 mm from the female connector (see Figure 4-37 on page 4-163).
6.	<p>If the power supply has a battery input socket (BBU) or if you have acquired the BBU extension kit (Full - S30777-H770-H410-*, Medium - S30777-H770-H420-*):</p> <ul style="list-style-type: none"> – Connect the cables indicated in the figure 3-34 into the first power supply and fix it to the chassis (see figure 4-37), then proceed in the same way by interconnecting the remaining power supplies using the Vshare interconnect cable, the interconnect cable between the PSU and fix them to the chassis. – Vshare interconnect cable; – PSU interconnect cable - battery cable; – Interconnect cable between PSU's – AC power supply cable (with ferrites) – Interconnect the batteries as indicated in "Installing the batteries" on page 4-164.
7.	Connect the AC cables of the power supplies to the AC output of the chassis as indicated in figure 4-10
8.	Plug the system's AC cable into the AC input on the power supply (see figure 3-34).
9.	Replace the protective cover on the power supplies' AC input on the chassis (see figure 4-10).
10.	Configure the required data (see "Operation" on page 6-199).

Installation

Installing the power supply



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.

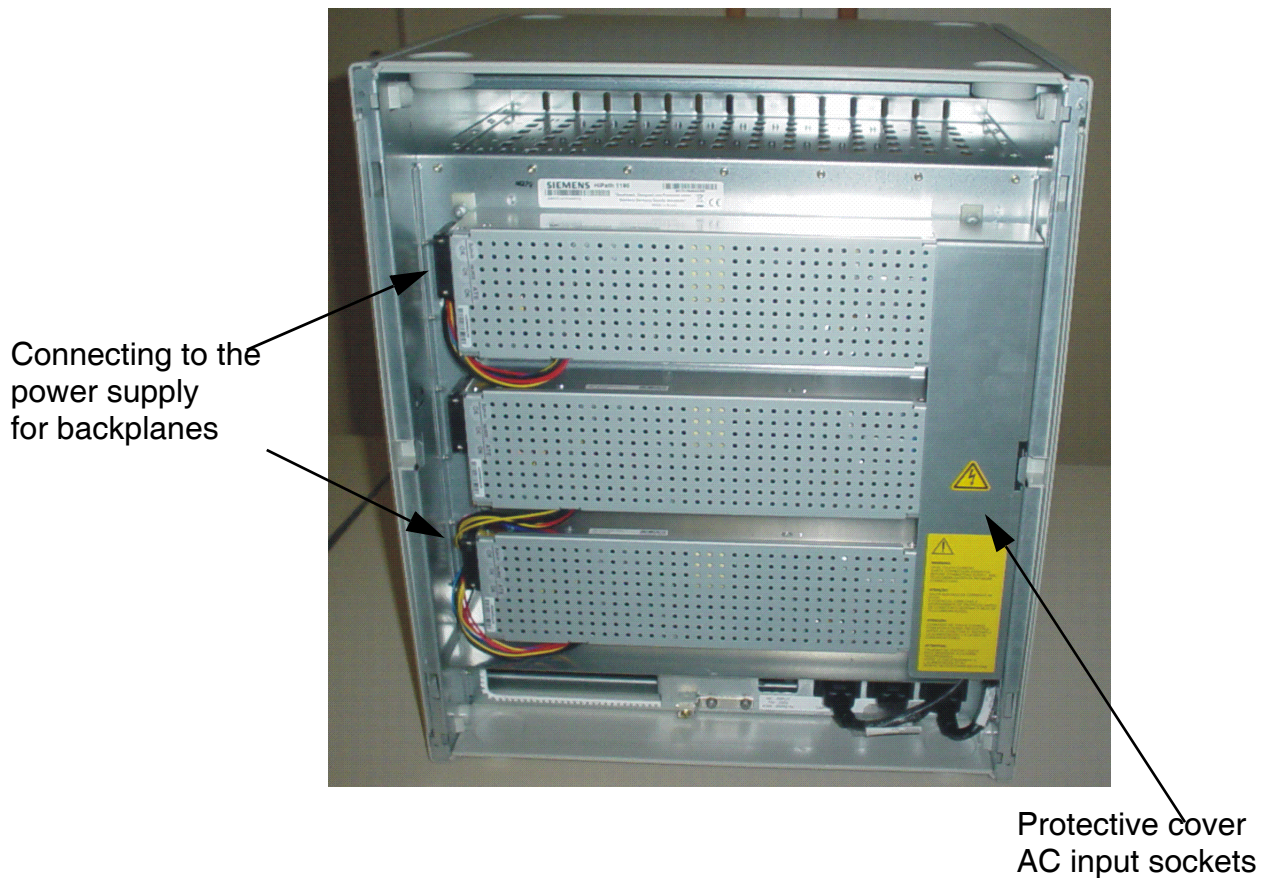


Figure 4-36 Installing the PSU in the HiPath 1190/1190R

Installation

Installing the power supply

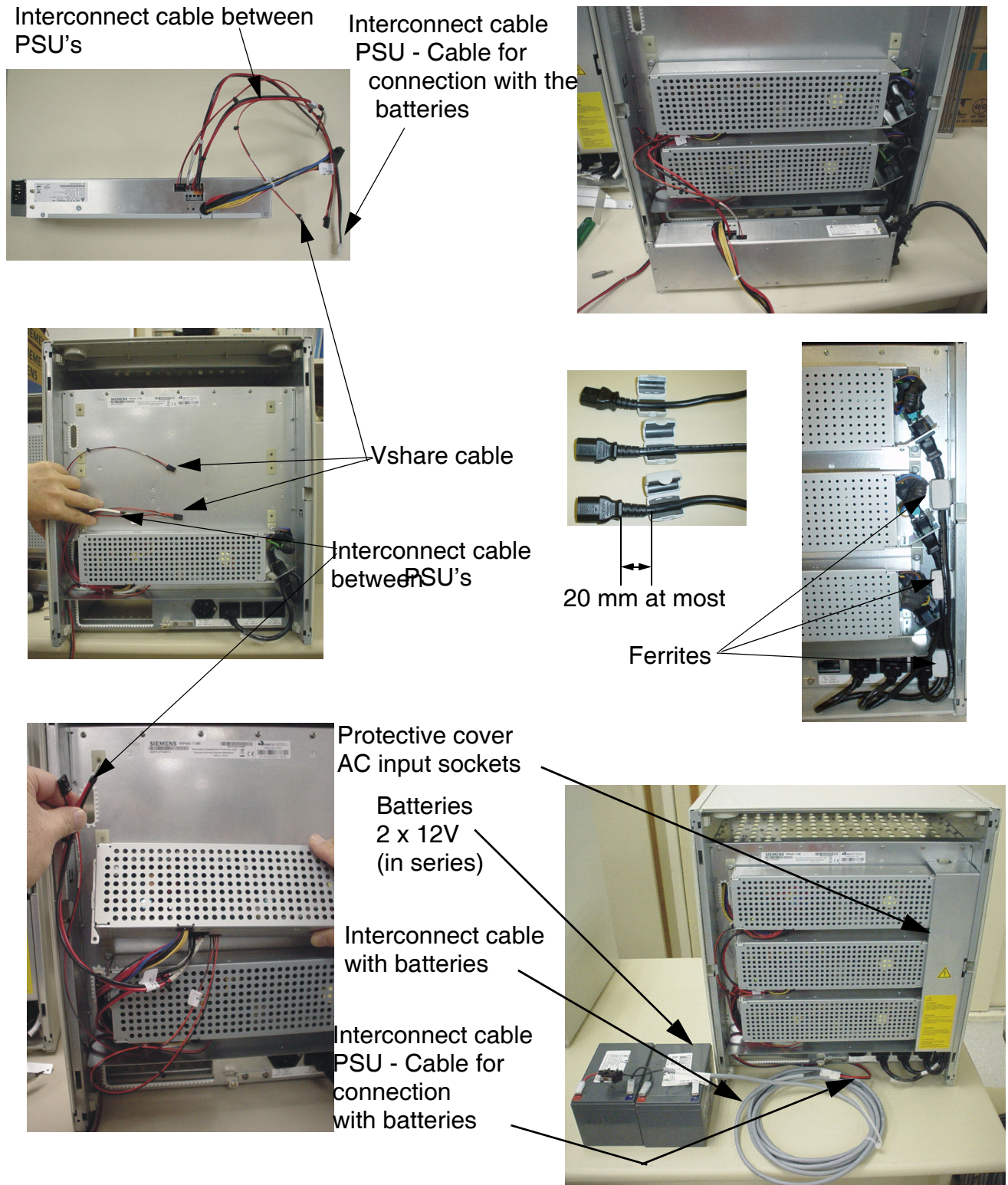


Figure 4-37 Installing the PSU with BBU in the HiPath 1190/1190R

Installation

Installing the power supply

4.8.4 Installing the batteries

In HiPath1150/1190/1190R systems you require two batteries (2x12V) that must be connected (in series) using a cable with female faston Connectors at each end.

Note: The power supply used in the systems must have a battery connection socket (see “Power Supply Unit (PSU)” on page 3-91) and must use the required interconnect cable (“Battery interconnect cables (BBU)” on page 3-120).



Caution

FAILURE TO REPLACE BATTERY WITH SPECIFIED BATTERY TYPE CAN CAUSE RISK OF EXPLOSION. DISPOSE OF USED BATTERIES ACCORDING TO YOUR COUNTRY’S LAWS AND REGULATIONS.

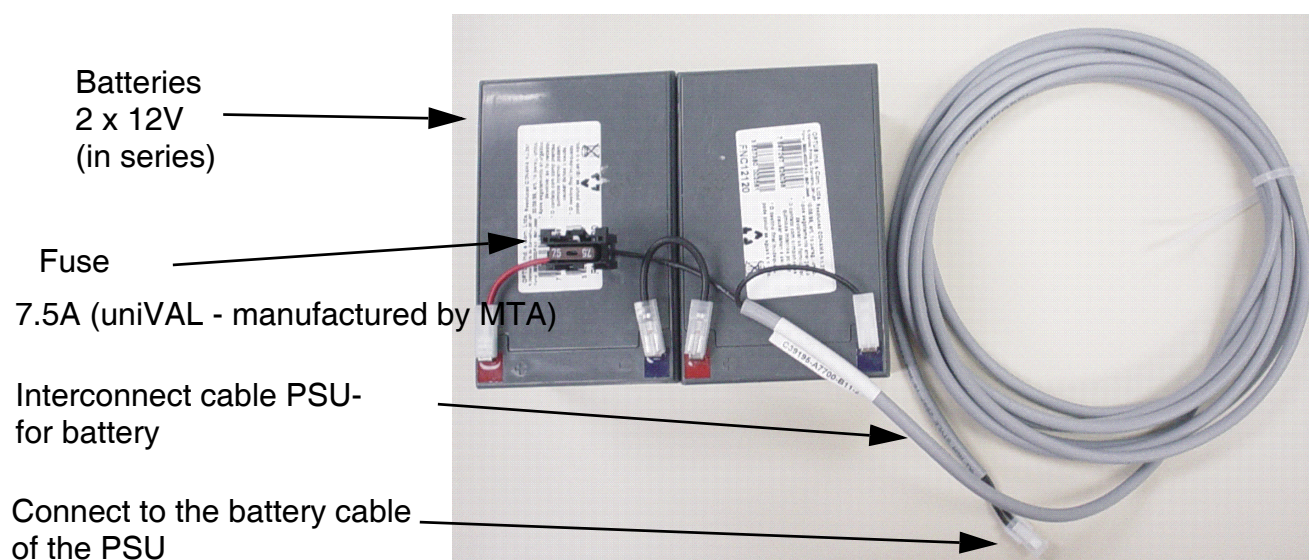


Figure 4-38 Connecting batteries to the system.

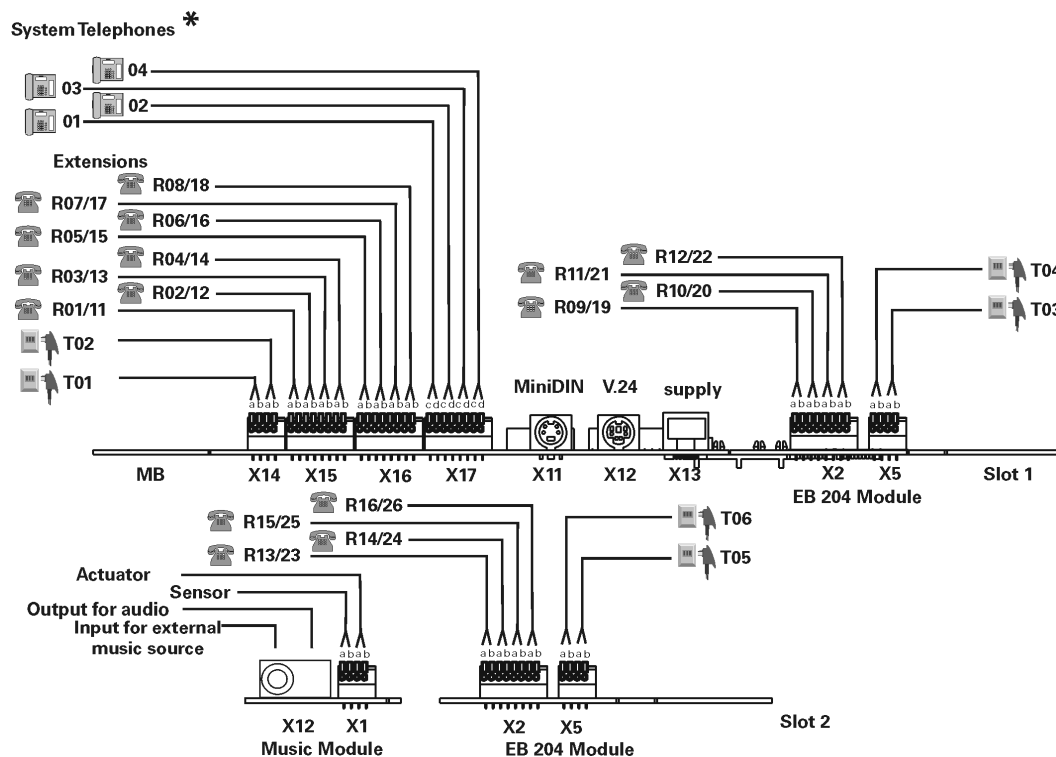
4.9 Connections to the system's MDF

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 examples of configurations.

4.9.1 HiPath 1120

Example



*The installation of a KS type system telephone requires a CD pair in conjunction with an A/B extension slot (see "Installing telephone terminals" on page 4-181).


Figure 4-39 Distribution of extensions on the HiPath 1120 MDF



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.

Installation
Connections to the system's MDF



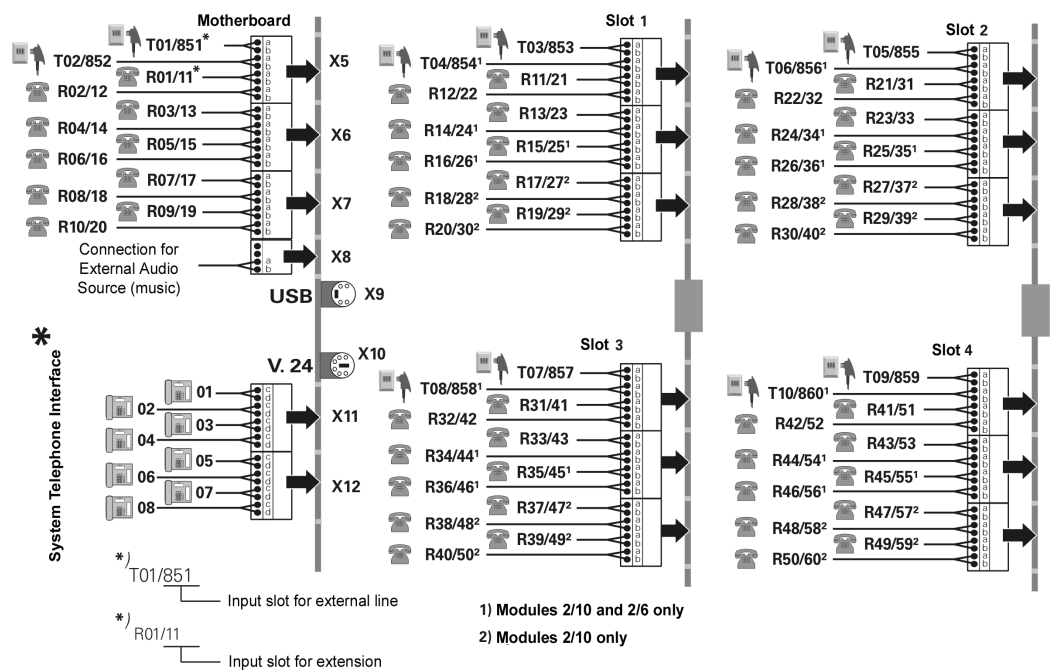
When using Expansion module U_{P0/E}, KS type system telephones will be disabled

Slot	Position of the	Position of the extension	Internal #	Slot	Position of the trunk	Position of the exten-	Internal # EB 204 module
MB	01		801	Position 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	Position of the trunk	Position of the extension	Internal # EB 204 module				
Position 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

4.9.2 HiPath 1150

Example



*The installation of a system telephone requires a CD pair in conjunction with an A/B extension slot (see "Installing telephone terminals" on page 4-181).

Figure 4-40 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 #	Extension slot	Internal #
MB	01		801
	02		802

Installation
Connections to the system's MDF

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 #	Extension slot	Internal # EB 210 module	Internal # EB 206 module	Internal module number	Internal # Module EB 200	Internal # EB 400 module	Internal # EB 800 module									
Position 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														

Installation
Connections to the system's MDF

Slot	External Line #	Extension slot	Internal # EB 210 module	Internal # EB 206 module	EB 202 module Internal #	Internal # EB 200 module	Internal # EB 400 module
Position 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 #	Extension slot	Internal # EB 210 module	Internal # EB 206 module	EB 202 module Internal #	Internal # EB 200 module	
Position 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				

Installation

Connections to the system's MDF

Slot	External Line #	Extension slot	Internal # EB 210 module	Internal # EB 206 module	EB 202 module Internal #	Internal # EB 200 module
Position 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

4.9.3 HiPath 1190/1190R



Warning

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

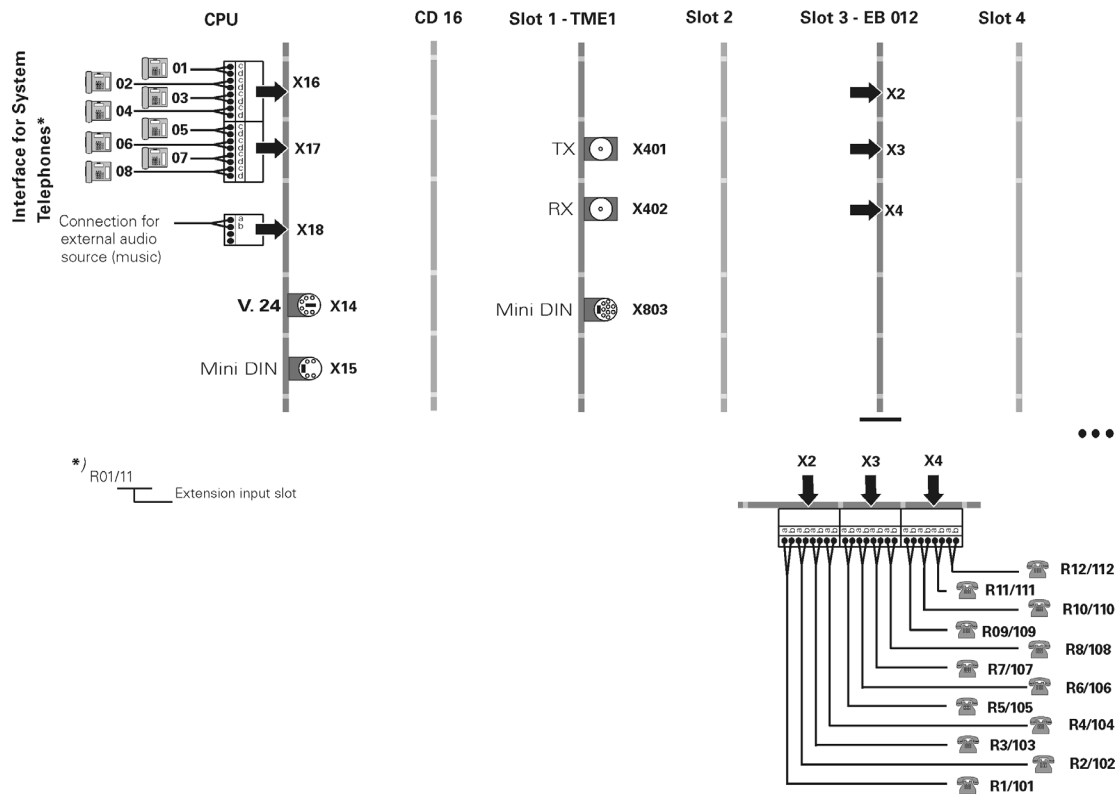
Example

Due to the flexibility of the HiPath 1190 systems, the configuration of expansion and optional 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 digital line #	Analog extension position	Internal #
TME1	Position 1	01 to 30	---	801 to 830
EB 012	Position 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 a CD pair in conjunction with an A/B extension slot (see "Installing telephone terminals" on page 4-181).

Figure 4-41 Distribution of extensions on the HiPath 1190/1190R Main Distribution Frame

**Warning**

When the S_0 module is used, the default number of the modules is changed.

Installation

Installing a V.24 Interface

4.10 Installing a V.24 Interface

Introduction

To connect a computer/printer/modem to the HiPath 1100 using the RS 232 serial interface, you must use the V.24 adapter cable (see “V.24 Adapter Cable” on page 3-111). If it is necessary to use another serial cable as an extension to connect the computer/printer/modem to the HiPath 1100, the maximum total length should not exceed 15 metres.

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 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.	<p>The following parameters can be configured when using a PC:</p> <ul style="list-style-type: none">• 9600 / 14400 / 19200 (default) / 38400 / 56000 / 57600 / 115200 /128000 / 256000 baud <p>Fixed settings:</p> <ul style="list-style-type: none">• 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

When using a LAN interface module, do not use the MB's serial Connector since the serial connection is assigned to the HiPath 1100 module. All functions of the serial port are now executed over the LAN.

4.11 Installing a USB Interface

Introduction

To connect a PC to the HiPath 1100 using a USB interface you must have a USB adapter cable (see “USB adapter cable” on page 3-114). This interface allows you to use certain applications developed specifically for configuring and managing user features.



Warning

The installation drivers are on the Setup and Installation CD.

4.11.1 On the HiPath1120/1150

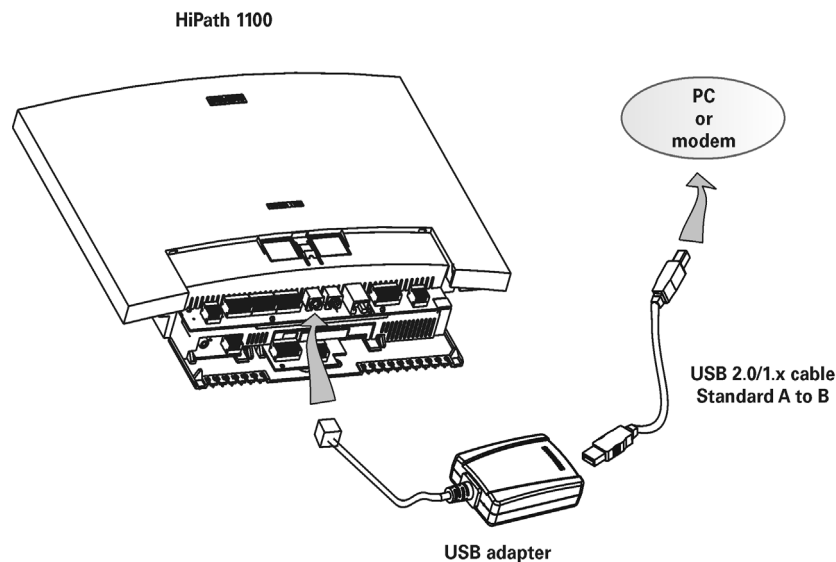


Figure 4-42 Illustration of USB cable connection

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 4-42).
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.

Installation
Installing a USB Interface

Step	Procedure
3.	See System Programming Mode in the “System programming mode using a PC” on page 6-201.

4.11.2 On the HiPath 1190/1190R

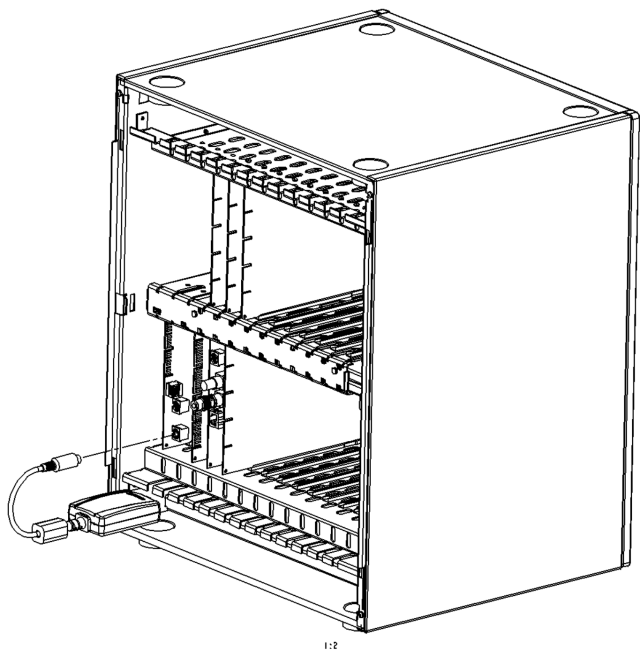


Figure 4-43 Illustration of USB cable connection on HiPath 1190

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 4-43).
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 “System programming mode using a PC” on page 6-201.

4.12 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 optional module using an RCA Connector in slot X1 (see Figure 4-39 on page 4-165).
- **HiPath1150/1190/1190R**
The audio source must be connected to the MB on slot X8, pins 3 and 4 (See Figure 4-40 on page 4-167).

4.13 Installing a TFE - entrance telephone interface

4.13.1 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 "Internal entrance telephone with TFE interface" on page 3-101.
2.	Connect the entrance telephone to the TFE interface
3.	"Performing a visual inspection" on page 4-184.
4.	Configure the required data (see "Operation" on page 6-199).

Installation

Installing a TFE - entrance telephone interface

4.13.2 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 “Internal entrance telephone with TFE interface” on page 3-101).
2.	Configure the system for entrance telephone 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 4-184.
8.	Configure the required data (see “Operation” on page 6-199).



The length of the cables between the X2 Connector and the PABX must not exceed 32.8 feet.

Entrance telephone mode

Step	Procedure
1.	Set jumper 1 (J1) to OFF (see “Internal entrance telephone with TFE interface” on page 3-101).
2.	Configure the system for entrance telephone 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 4-184.
9.	Configure the required data (see “Operation” on page 6-199).

4.14 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 characteristics of the building make this impossible, use an intermediate transformer to detach the external system so that damage may be avoided during operation.

Installation

Recommendations concerning the Power Supply and Protection of the System

Protective ground connection



Danger

The HiPath1150/1190/1190R 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 mm²) as shown in [figure 4-44](#).

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 aerial systems.

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

Example of a power supply configuration for the HiPath1150/1190/1190R systems

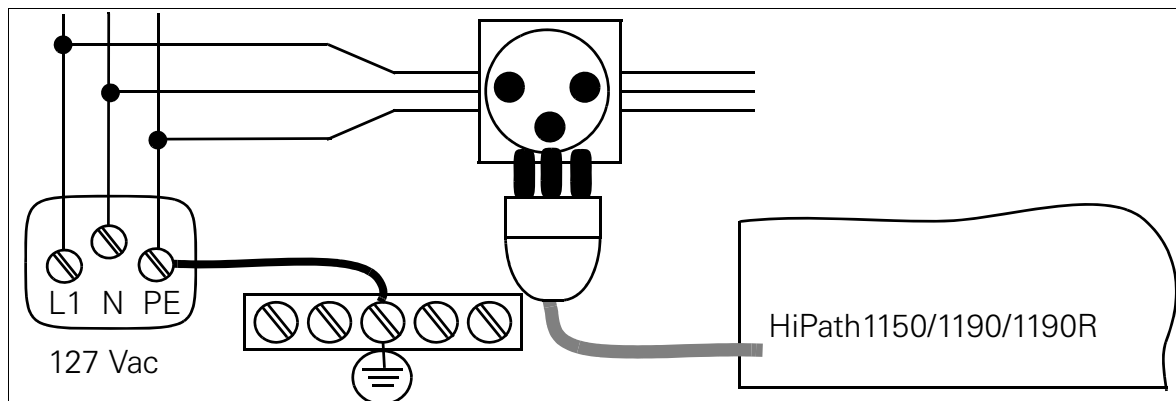


Figure 4-44 Diagram of power supply configuration for the HiPath1150/1190/1190R Systems

4.14.1 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 mm²) 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.

Recommendations concerning the Power Supply and Protection of the System

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.

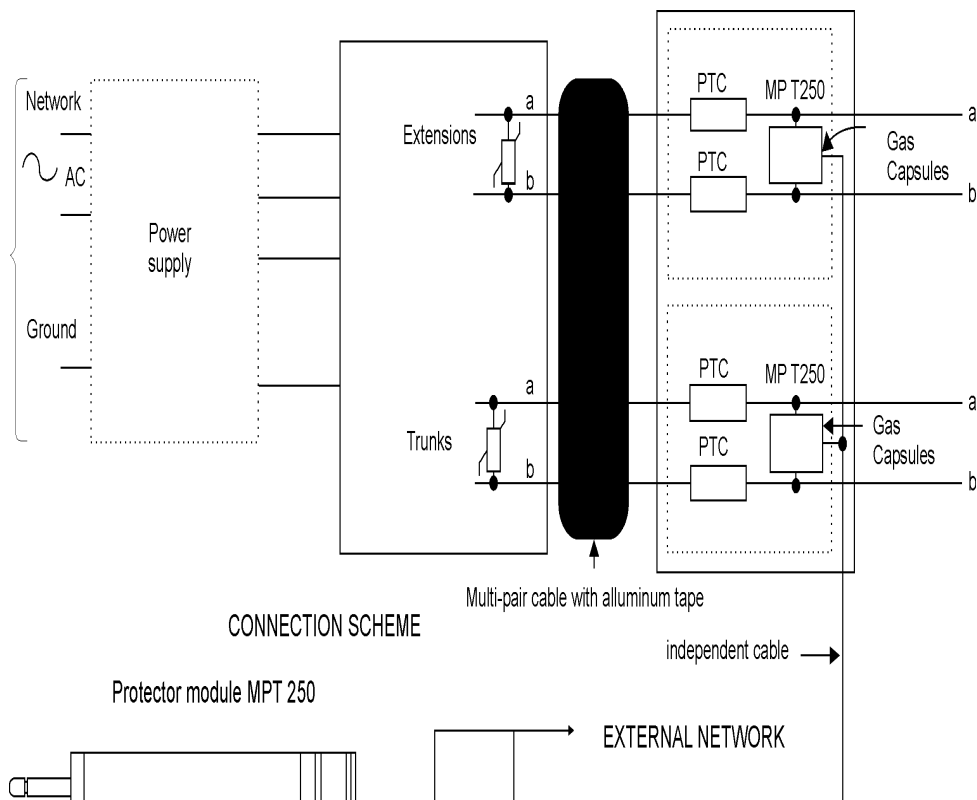


Figure 4-45 Protection and grounding connection diagram

4.14.2 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 an internal or external telecommunications network. To make this connection, follow these guidelines:

Installation

Protective power outage relays

- For an indoor environment, use a safety ground conductor (PE) with a cross-section larger than 2.5 mm². For an outdoor environment, use a safety ground conductor (PE) with a cross-section larger than 4 mm².
- 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 using an appropriate power supply circuit (See "Power Systems" on page 2-24)

.



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

Checking the protective 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

4.15 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.

4.16 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	wt/blu	blu/wt	3	11	blk/blu	blu/blk
	2	wt/or	or/wt		12	blk/or	or/blk
	3	wt/gre	gre/wt		13	blk/gre	gre/blk
	4	wt/cob	cob/wt		14	blk/cob	cob/blk
	5	wt/gra	gra/wt		15	blk/gra	gra/blk
2	6	red/blu	blu/red	4	16	yel/blu	blu/yel
	7	red/or	or/red				
	8	red/gre	gre/red				
	9	red/cob	cob/red				
	10	red/gra	gra/red				

Table 4-7 Color code for cables

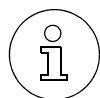
The end of the cable that is attached to the system's Main Distribution Frame uses one of the Connector types shown in "Main Distribution Frame" on page 3-98.

4.17 Installing telephone terminals

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

An **optiPoint-type system telephone** has four wires (A, B, C, D), two of which (A, B) are required for voice communications.

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



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

Installation
Installing telephone terminals

Connections

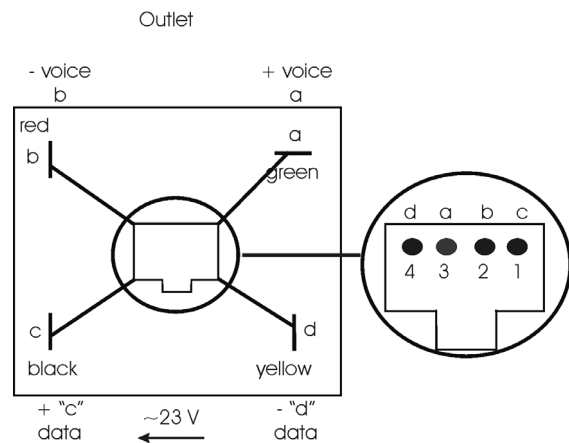


Figure 4-46 Connections for telephone jacks (for Brazil)

- 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. (see “CD Interface Assignment” on page 7-308). If necessary, choose a different C/D pair, then program the new C/D interface assignment.
4.	Install the telephone sets.
5.	“Performing a visual inspection” on page 4-184.
6.	Configure the required data (see “Operation” on page 6-199).



Warning

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 activate the extension again, remove the short, disconnect the system telephone then reconnect it. The interface should then start operating normally.

For 2-wire analog telephone sets (A, B) a momentary short-circuit should not cause any problem.

The maximum distance for installing a KS-type system telephone using a two-pair cable with a 0.4 mm² copper wire is 0.3 miles and for standard telephones it is 1.5 miles.

4.18 optiPoint Master/Slave telephone HiPath 1120 connections

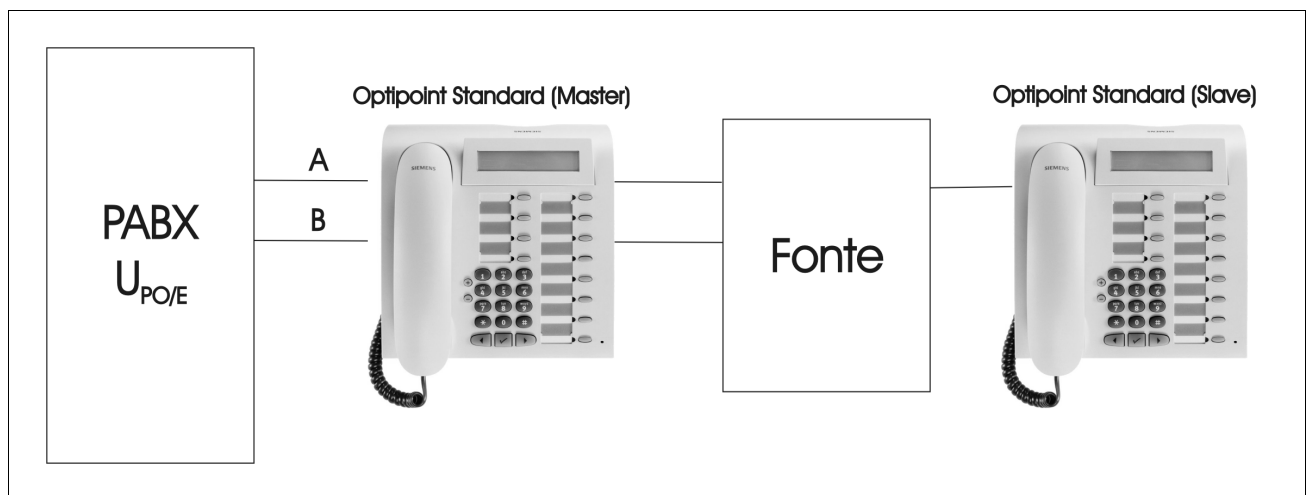


Figure 4-47 optiPoint Master/Slave telephone HiPath 1120 connections




Important

When there are more than 4 optiPoint 500 (Master or Slave) telephones on the HiPath 1120 system, an additional power supply must be used. (see Chapter 3, "List of modules").

4.19 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

Check whether all AC and DC connections of the cables, modules and chassis of the HiPath 1100 are correctly and properly connected before connecting the client interface.



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 1-19).

Visual inspection procedure

Step	Procedure	Help/ Notes	Measurements
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 person in charge.
2.	Check to see that all modules are securely and properly attached.	See "System Data" on page 2-24.	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 KS-type system telephones, optiPoint 500 and standard telephones (DP/DTMF)

5.1 Overview

This chapter covers the following topics:

Topic	Page
System Telephones	
• Profiset 3030 System Telephone	5-186
• E822 ST System telephone	5-187
• E821 ST System Telephone (for Brazil only)	5-189
• optiPoint 500 System Telephones	5-190
• Programmable Feature Keys	5-197
• Settings	5-198
Common telephones	
• Dial Pulse (DP) Telephone	5-198
• Dual Tone Multifrequency Telephone (MF)	5-198

5.2 System Telephones

System telephones are designed exclusively for HiPath 1100 systems. In addition to special features, system telephones allow direct access to some PABX facilities while providing special features for tracking extension and external line status by means of indications from a set of programmable keys.

The programming for the system is described in Chapter 7, "Configuring the system specifically for the client".






For system telephones without a display, only the "Store key number" can be programmed using the keypad (see the User Manual). Other functions can only be programmed using the HiPath 1100 Manager.

5.2.1 Keys

Status keys

On optiPoint 500, Profiset 3030, E821 ST and E822 ST telephones, these keys display extension, external line and features/facilities status through a series of blinking LED patterns.

Symbol	Description
	LED Key OFF: Extension or external light free or function disabled.
	LED key ON: Extension or external line busy or function enabled.
	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 system messages.
- The third line displays the extension number and system messages pertaining to feature selection options.
- When the ">" or "<" symbol appears next to the line, it means there are additional selection options. Use the navigation keys to scroll through the available options. Press Enter to select an option.
When the "▲" 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

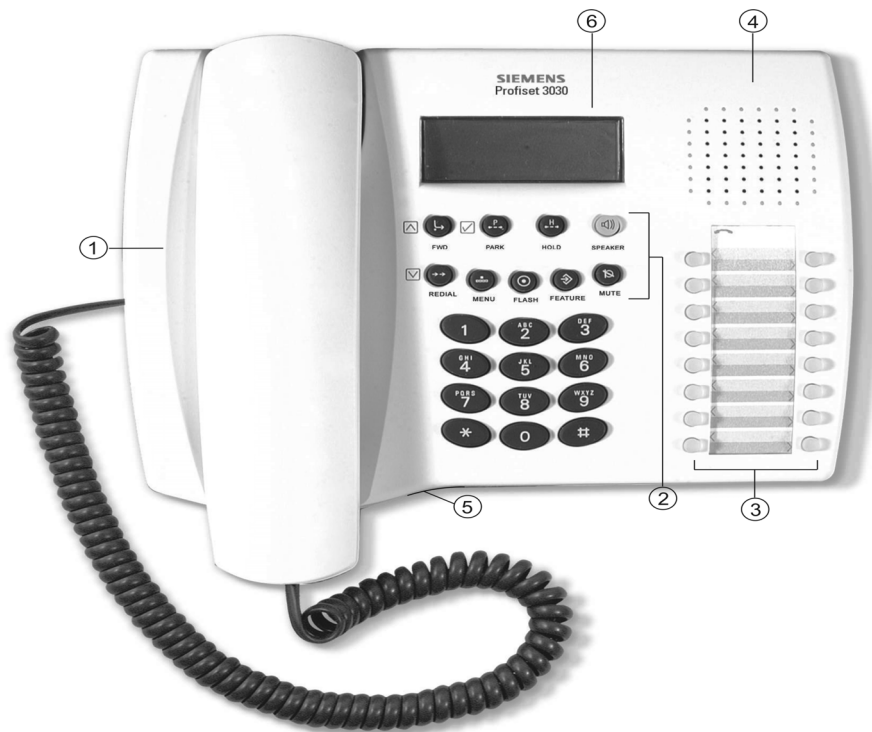


Figure 5-1 Profiset 3030 System telephone layout

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.

Telephones

System Telephones

- If the ">" appears on the right, it means there are more options available. Use the arrow keys to navigate through the options. Press Enter to select an option.

E822 ST System telephone layout

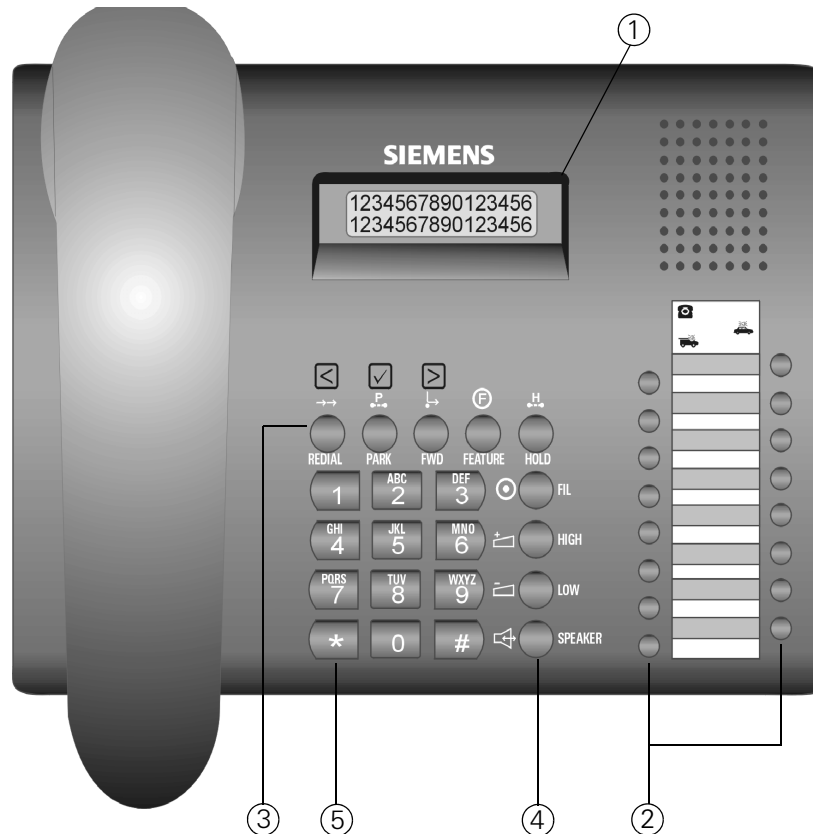


Figure 5-2 E822 ST system telephone layout

1. Alphanumeric LCD display
2. Programmable status indication LED keys
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

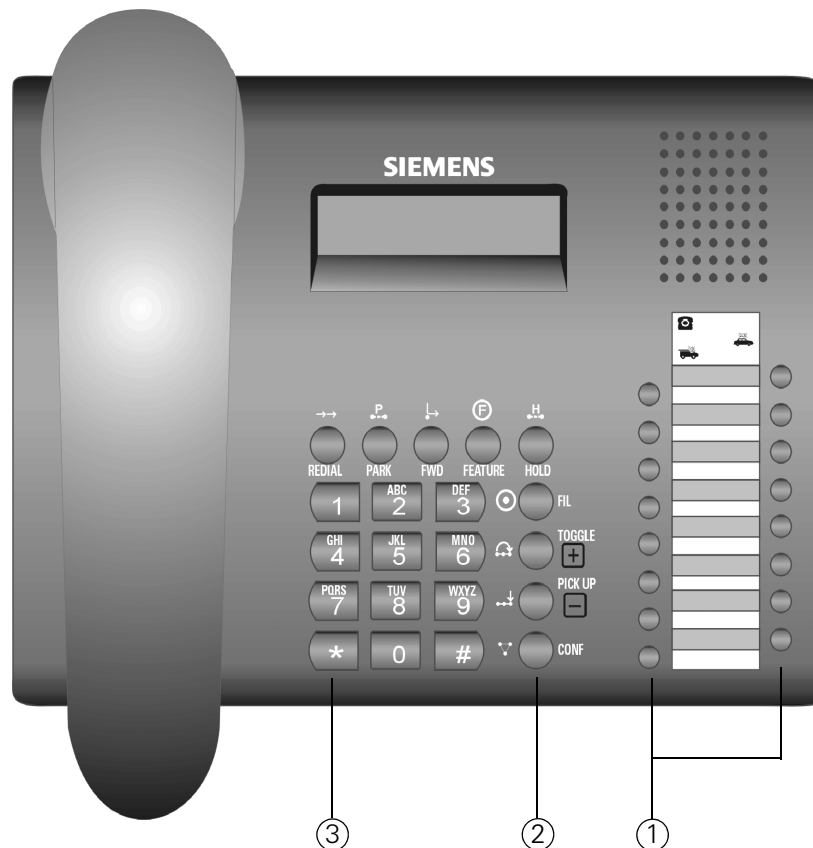




Figure 5-3 E821 ST system telephone layout

1. Programmable status indication LED keys
2. Special function keys
3. End Call key for use with a headset.

5.2.5 **optiPoint 500 System Telephones**

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

- Line 1 displays time, date, requests, error alerts and confirmation messages, as appropriate.
- Line 2 displays the internal number, system name, and function selection options that can be selected by pressing ☒. If the ">" appears on the right, it means there are more options available. Use the arrow keys to navigate through the options. Press Enter to select an option  .



Important

When there are more than 4 optiPoint 500 (Master or Slave) telephones on the Hi-Path 1120 system, an additional power supply must be used. (See Chapter 3, "List of modules").

optiPoint 500 advance telephone layout

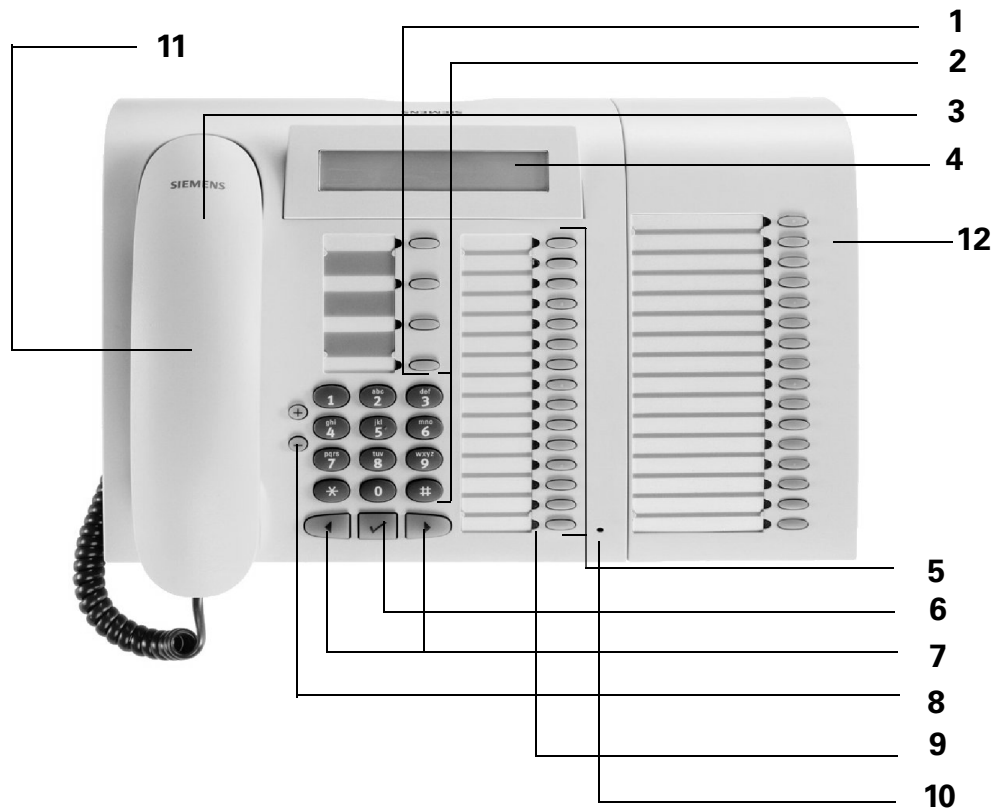


Figure 5-4 optiPoint 500 advance System telephone layout

optiPoint 500 economy/basic/standard telephone layout

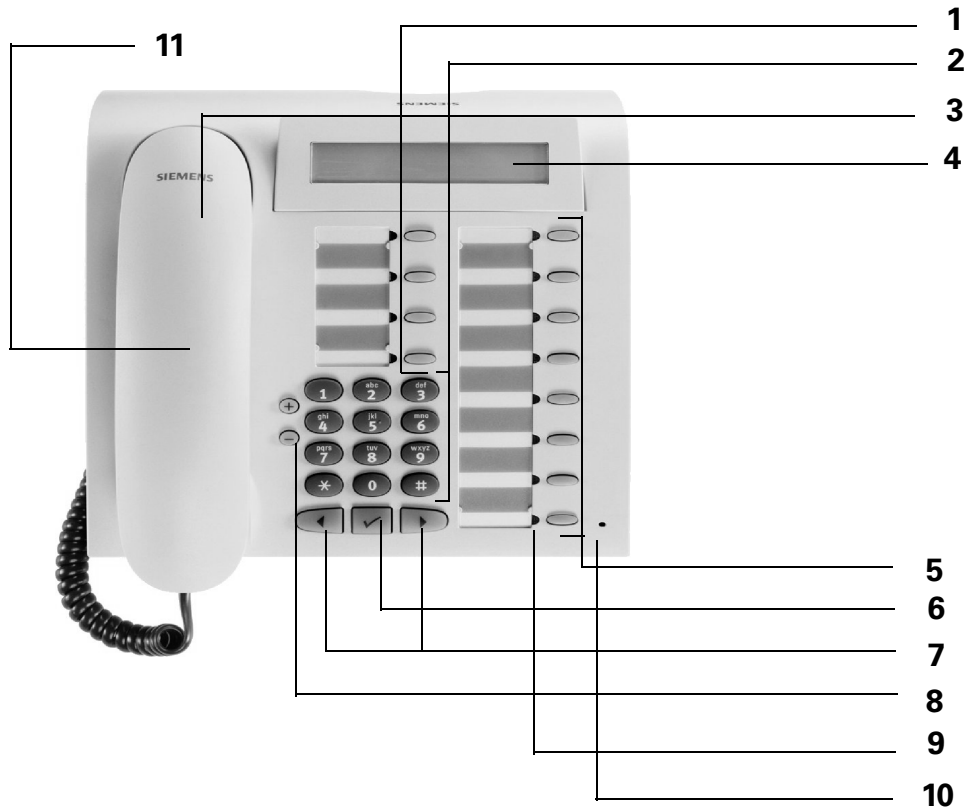


Figure 5-5 optiPoint 500 economy/basic/standard system telephone layout

optiPoint 500 entry telephone layout

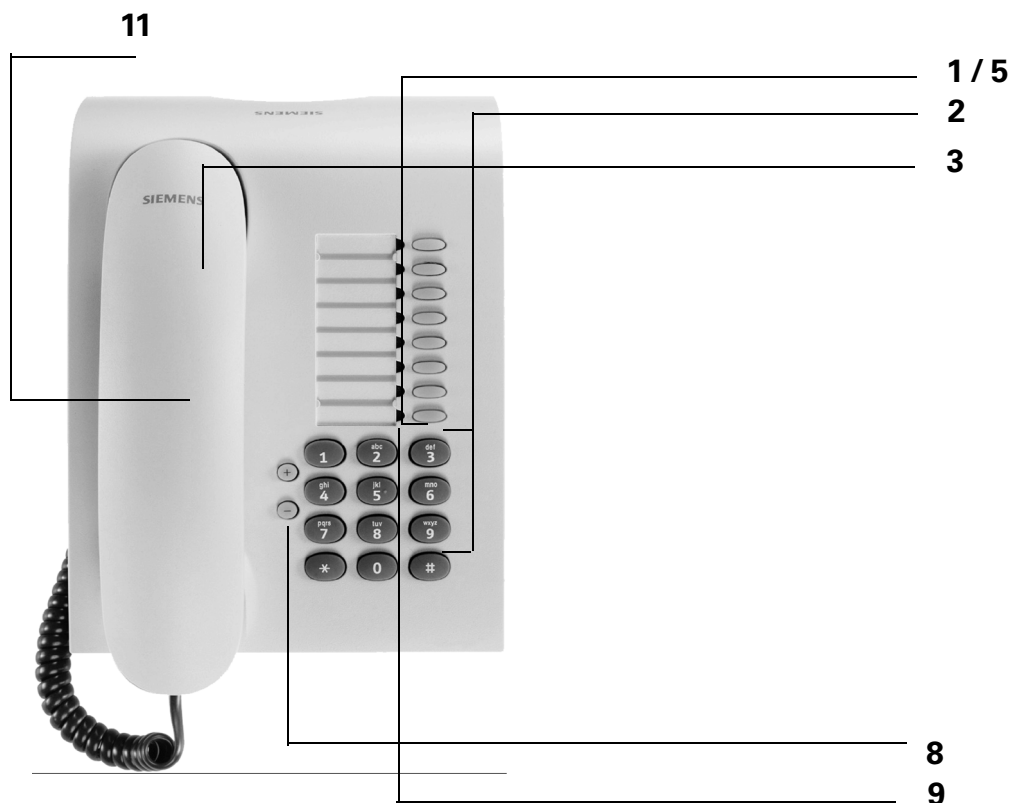


Figure 5-6 optiPoint 500 entry System Telephone Layout

1. Key labels – preset Function keys: Service menu, redial, microphone ON/OFF or internal, speakerphone.
2. Keypad
3. Handset
4. This telephone features a 4-line, 24-character-per-line backlit display
5. Key labels - Programmable keys
6. Key for confirming a function
7. Keys for selecting a function
8. Keys for configuring the telephone set
9. LEDs
10. Microphone for speakerphone

11. Speakerphone and call tone speaker.
12. optiPoint key module or optiPoint BLF or optiPoint memory module with freely programmable keys and specific functions.



On the optiPoint 500 Entry model, the preset function keys field (1) can be programmed as desired (5).

optiPoint 500 rear panel

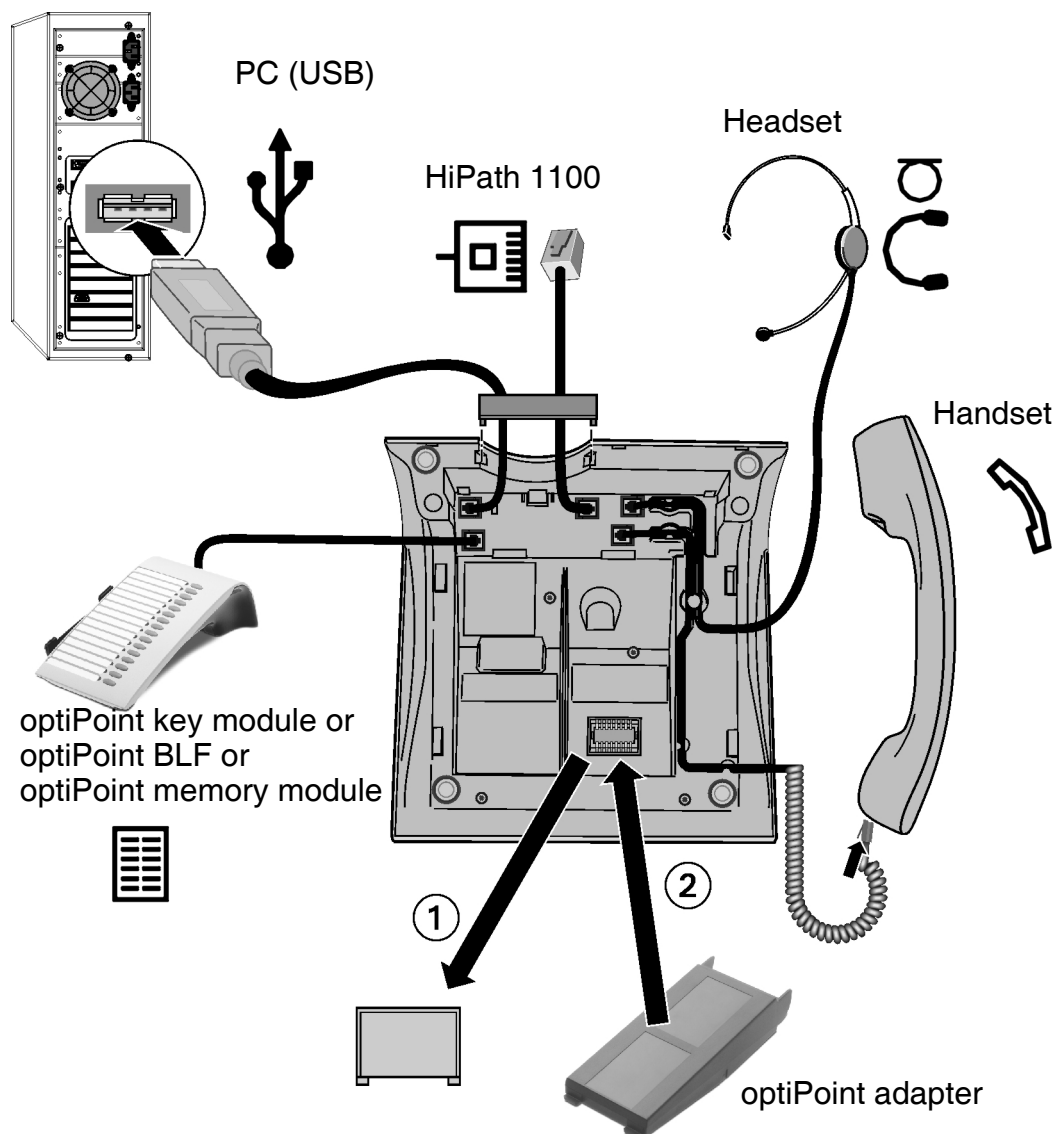


Figure 5-7 optiPoint 500 rear panel


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
Headphone connected using:				
• Integrated interface	-	-	-	Yes
• Adapter	-	Yes	Yes	Yes
• Handset Interface	Yes	Yes	Yes	Yes
USB Interface	-	Yes	Yes	Yes
Additional connection interface)	-	Yes	Yes	Yes
Adapter slots	0	1	1	2

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

Terminals, adapters and accessories

Using options improves performance and provides more comfort for users while performing their jobs.



1




2

3

Additional optiPoint terminals:
 Additional terminals provide more comfort and improve efficiency and safety at work.
 Supported additional terminals include:

1. optiPoint memory module;
2. optiPoint key module;
3. optiPoint BLF.

Note: Up to 2 optiPoint BLFs may be connected per system

	<p>Additional optiPoint terminals: Additional terminals provide more comfort and improve efficiency and safety at work. Supported additional terminals include: optiPoint key module, optiPoint memory module.</p>
	<p>optiPoint adapters: Expand telephone features through different adapters for connecting different system telephones, ISDN or analog telephones, headsets or speakers. Supported adapters include: optiPoint acoustic adapter, optiPoint analog adapter, optiPoint ISDN adapter and optiPoint phone adapter.</p>
	<p>Headset: The headset can be used to replace the terminal's handset for hands-Free operation. Warning: For information on installation, related issues and operation, please see the headset's installation manual.</p>
	<p>Additional microphone: Designed for use with a speakerphone in environments with poor acoustical quality. Connection requires an optiPoint acoustic adapter.</p>


	<p>External speaker: Improves reception quality when using a speaker/ speakerphone. Ideal for conferences. Connection requires an optiPoint acoustic adapter.</p>
---	---


Table 5-1 Terminals, adapters and accessories for optiPoint 500

Considerations on headsets

Models with electronic hook control (such as Siemens Elipse 1.8 EHS and GN Netcom 9120) for answering calls using a headset must use an optiPoint Acoustic Adapter, regardless of the optiPoint model used. optiPoint Advanced features include a built-in headset interface. However, an optiPoint Acoustic Adapter is required for connecting the headset. When an optiPoint key is configured for using a headset (optional setting, the system behaves as if a headset is connected. Therefore, it is recommended that when you disconnect the headset you change the key configuration accordingly.

If you want to use a Siemens Elipse 1.8 EHS or GN Netcom 9120 set without the electronic hook control switch, you must use an optiPoint Acoustic Adapter for optiPoint Entry, Basic and Standard models. For the optiPoint Advanced, an optiPoint Acoustic Adapter is optional. The headset can be connected to the built-in interface on the telephone’s rear panel using a RJ45 connector. The Headset feature key must be programmed to answer calls.

Headset models without an electronic hook key (e.g., Plantronics) can be connected directly to the handset’s interface on an optiPoint (Entry, Basic or Standard) telephone, as well as through an optiPoint Acoustic Adapter or the built-in interface (optiPoint Advanced only). However, in order to be detected by the system, a Headset key must be programmed, regardless of the configuration being used.



- When an optiPoint key is configured for using a headset (optional setting, the system behaves as if a headset is connected. Therefore, when you disconnect the headset you must change the key configuration accordingly.
- For information on how to install headsets for use with optiPoint telephones, see the headset user’s manual.

5.2.6 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 (see chapter on programmable keys in the User Manual - Code *91).
 - optiPoint 500 advance/economy/basic/standard - A31003-K1270-U101-*
 - Profiset 3030, E 822 and E821 - - A31003-K1270-U102-*
 - optiPoint 500 Entry - A31003-K1270-U104-*

Telephones

Common telephones

5.2.7 Settings

System telephone settings can be configured individually according to each user's preferences. For further 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
optiPoint500	A31003-H8400-B988 -**-6Z19

5.3 Common telephones

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 indicated after the “**DTMF**” symbol.



Important

The “Flash” feature is valid only for a DTMF telephone, not for DP phones. 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.



NB

For more information on the operation, features and facilities of system telephones, 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 the power supply (Connecting the Power Cable ->Initialization of the interface).	6-199
2.	Activating System Programming	6-199
3.	Programming with a Telephone Set	6-200
4.	System programming mode using a PC	6-201
5.	HiPath 1100 applications	6-254

Connecting the system to the power supply

Procedure

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

Activating System Programming

The system HiPath 1100 comes with a factory default configuration, described in the programming tables for each code.

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	6-200
Using a computer	6-201

Operation

Programming with a Telephone Set

6.1 Programming with a Telephone Set

System programming can only be executed using the **first slot on an analog extension** of the interface (default extension 11) equipped with an **analog** extension (MF) or on a **KS**-type system telephone or in the first slot of an **optiPoint 500**-type system telephone. Programming cannot be made on two extensions at the same time.

The reason for initially using a KS-type 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 “Connections to the system’s MDF” on page 4-165).

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). If the parameter is keyed in wrong, 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:

- Programming concludes automatically after settings are entered
- 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 data input 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 + XXXXX(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 System programming mode using a PC

The system CD contains the software packages required for installation with a PC (see "HiPath 1100 applications" on page 6-254).

Basic hardware requirements:

- IBM-type PC, Pentium processor 333 MHz (minimum)
- 128 MB RAM (minimum)
- Microsoft Windows 98 SE, Windows 2000, Windows 2003, Windows ME or Windows XP
- SVGA Color Monitor, 800x600 resolution (minimum)
- Free disk space: 150 MB (minimum).

Operation

System programming mode using a PC

Connections:

Connections PC <--> HiPath 1100	Page
Local Connection	6-214
With a V.24 Serial Interface	6-214
With a USB Interface	6-202
With the LAN interface module	6-204
With optiPoint	6-208
Remote or local connections	6-254
With an Analog modem	6-211
With an ISDN modem via S ₀ module	6-214

6.2.1 Local Connection

6.2.1.1 V.24 Serial Interface

For this option, first install the HiPath 1100 applications then set the CommServer.

Procedure:

1. Check that the HiPath 1100 system is ON
2. Insert the HiPath 1100 CD in the CD drive
If Auto-Run is not configured, go to the Windows Start menu, click Run and then select the Browse button in the dialog box. Open the SETUP.EXE file 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 each component is installed, a message is displayed indicating that the installation was completed successfully. Click "Next" every time it appears
7. Click "Finish" to close the installation window. This completes the software installation. Restart the PC if Windows requires this.

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

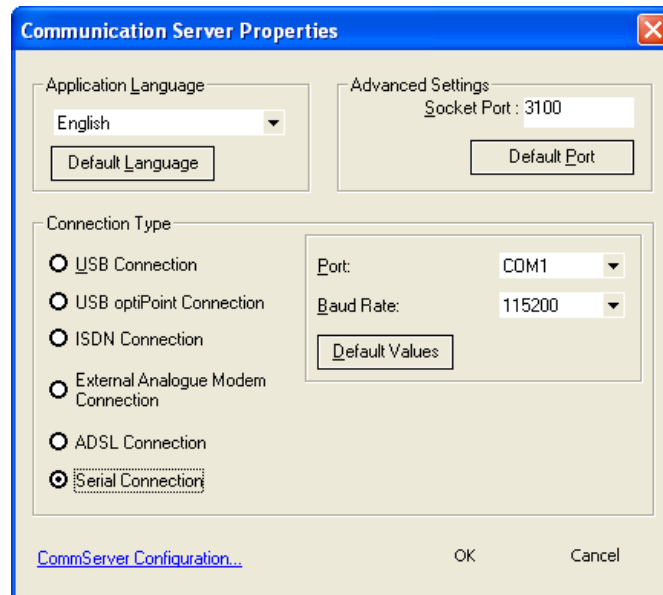


Figure 6-1 Communication Server Properties - Configuring a V.24 Serial Interface

9. The CommServer will be dialed automatically when an application is enabledHiPath 1100.



The V.24 Serial Interface may not be used if a LAN interface module is installed in the PABX.

Operation

System programming mode using a PC

6.2.1.2 USB Interface

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

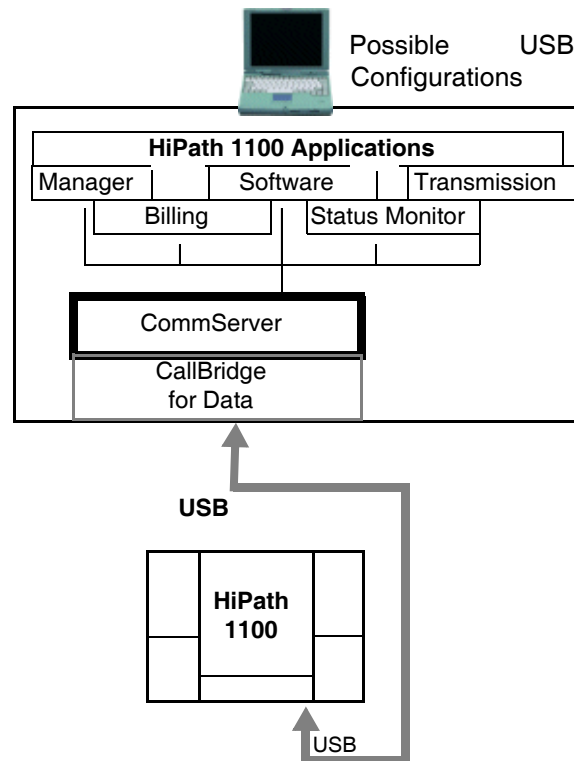


Figure 6-2 Possible USB Configurations

In order to perform 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 Chapter 6, "HiPath 1100 USB Drivers") then start installing the HiPath 1100 applications:

Procedure:

1. Insert the HiPath 1100 CD in the CD drive
If Auto-Run is not configured, go to the Windows Start menu, click Run and then select the Browse button in the dialog box. Open the SETUP.EXE file 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 each component is installed, a message is displayed indicating that the installation was completed successfully. 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":

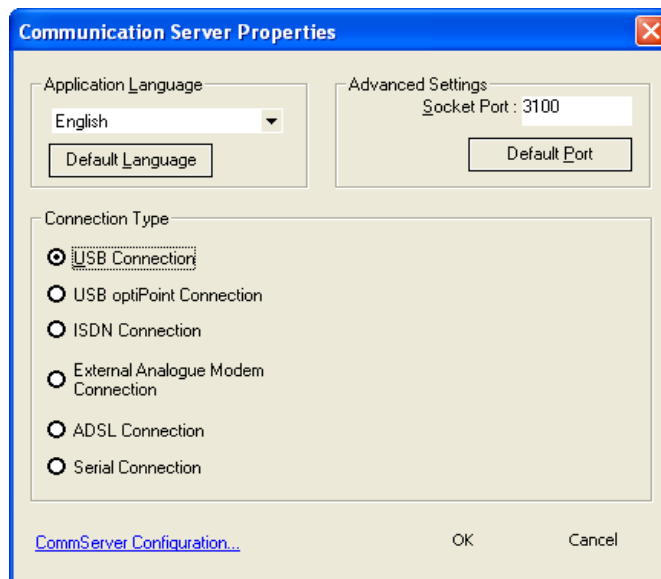


Figure 6-3 Communication Server Properties - Configuring a USB Connection

8. The CommServer will be dialed automatically when an application is enabledHiPath 1100.

Operation

System programming mode using a PC

6.2.1.3 LAN interface modules

This option uses LAN access via the ADSL, SLIMC, SADSLIM, LIMC or ADSLIM modules. Install the HiPath 1100 applications from the CD, restart the PC, then make the necessary settings on the HiPath 1100 Manager for connection with the CommServer.

Procedure:

1. Insert the HiPath 1100 CD in the CD drive
If Auto-Run is not configured, go to the Windows Start menu, click Run and then select the Browse button in the dialog box. Open the SETUP.EXE file 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 each component is installed, a message is displayed indicating that the installation was completed successfully. 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. **ADSL module** - After installation is completed, configure the CommServer (see Figure 6-4). Right-click the CommServer icon on the Windows status bar and select Properties.
 1. Select ADSL connection
 2. Configure the IP of the ADSL module:
If the "Get IP # Automatically" checkbox" is enabled, the CommServer will automatically be configured with the IP of the default gateway of the PC, if not, the IP of the ADSL module must be entered manually into the CommServer (Default 10.0.0.1).

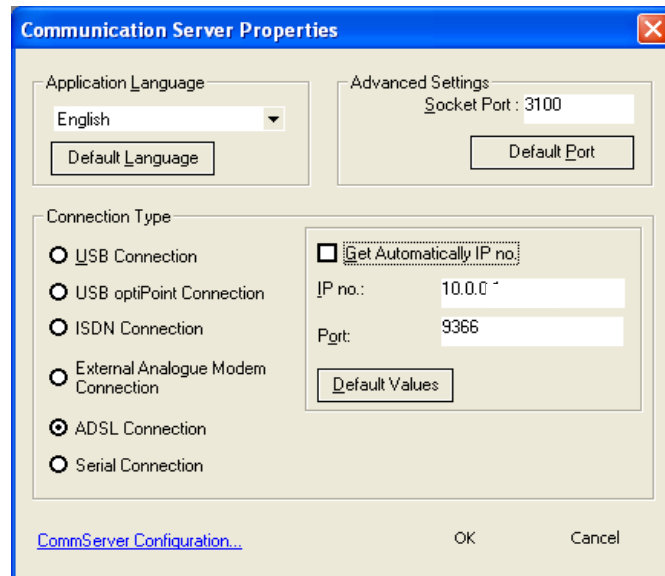


Figure 6-4 Properties of the CommServer - Connections ADSL module

8. **SLIMC, SADSLIM, LIMC or ADSLIM modules** - On the HiPath 1100 V7.0, you do not need to use the CommServer installed in your machine, as these modules already have a CommServer installed, known as eCommServer. You may therefore make an authorized LAN access to the PABX of an external application such as those that use the SNMP platform.

Configure the IP address and Port of the LAN interface module in the HiPath 1100 Manager in Tools/CommServe Configuration. menu

Defaults:

- Port:3100
- Default IP of the module: 192.168.254.253

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



The V.24 Serial Interface may not be used if a LAN interface module is installed in the PABX.

Operation

System programming mode using a PC

6.2.1.4 optiPoint Interface

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

In this case there are two ways to connect via optiPoint: VCOM or CAPI.

- a) Connections via optiPoint VCOM: Up to 8 optiPoint telephones can be connected to the system at the same time, although at lower speeds.
For this type of connection you can install the USB Administration drivers or USB Administration + CAPI interface drivers
- b) Connections via optiPoint CAPI: This connection via optiPoint is up to four times faster than an optiPoint VCOM connection (item a), therefore only one administration connection may be made each time. No other administration connections via optiPoint CAPI or remote ISDN connections to the system will be made while there is a CAPI connection running.
USB administration + CAPI interface drivers must be installed for this type of connection.

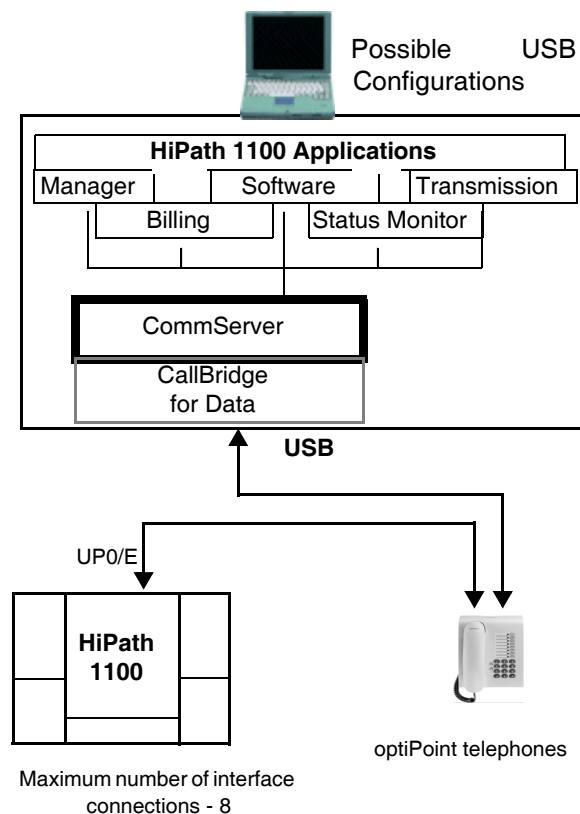


Figure 6-5 Possible optiPoint Configurations

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 Chapter 6, “optiPoint USB drivers”) and start installing the applications HiPath 1100:

Procedure:

1. Insert the HiPath 1100 CD in the CD drive
If Auto-Run is not configured, go to the Windows Start menu, click Run and then select the Browse button in the dialog box. Open the SETUP.EXE file 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 each component is installed, a message is displayed indicating that the installation was completed successfully. 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":

Operation

System programming mode using a PC

a) Connections via optiPoint VCOM:

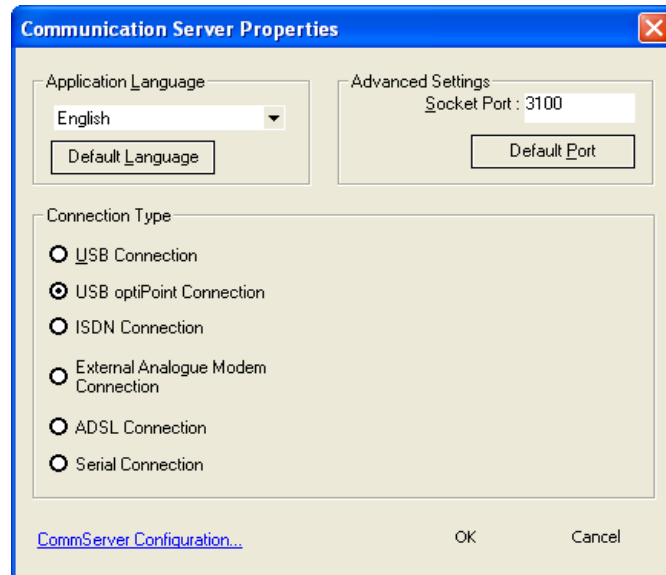


Figure 6-6 CommServer Properties - optiPoint Connection Configuration .

b) Connections via optiPoint CAPI:

- Connection Type: ISDN Connection
- Phone #: 800
- Your MSN: --- (There is no need fill this in)

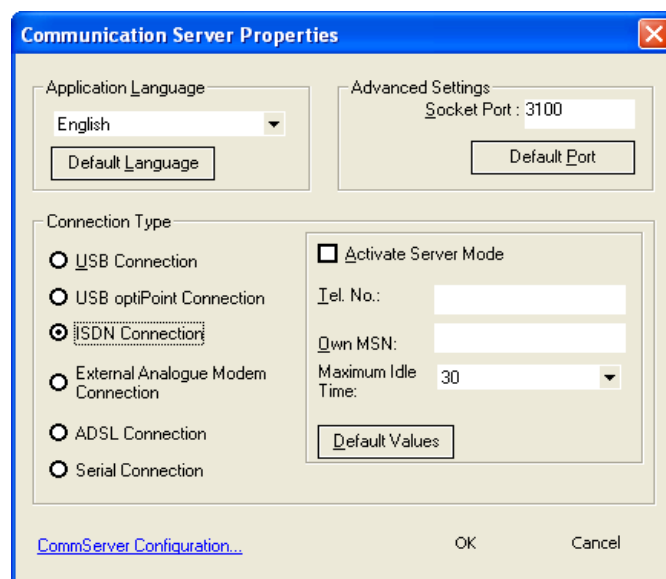


Figure 6-7 CommServer Properties - optiPoint CAPI Configuration.

6.2.2 Remote / 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:

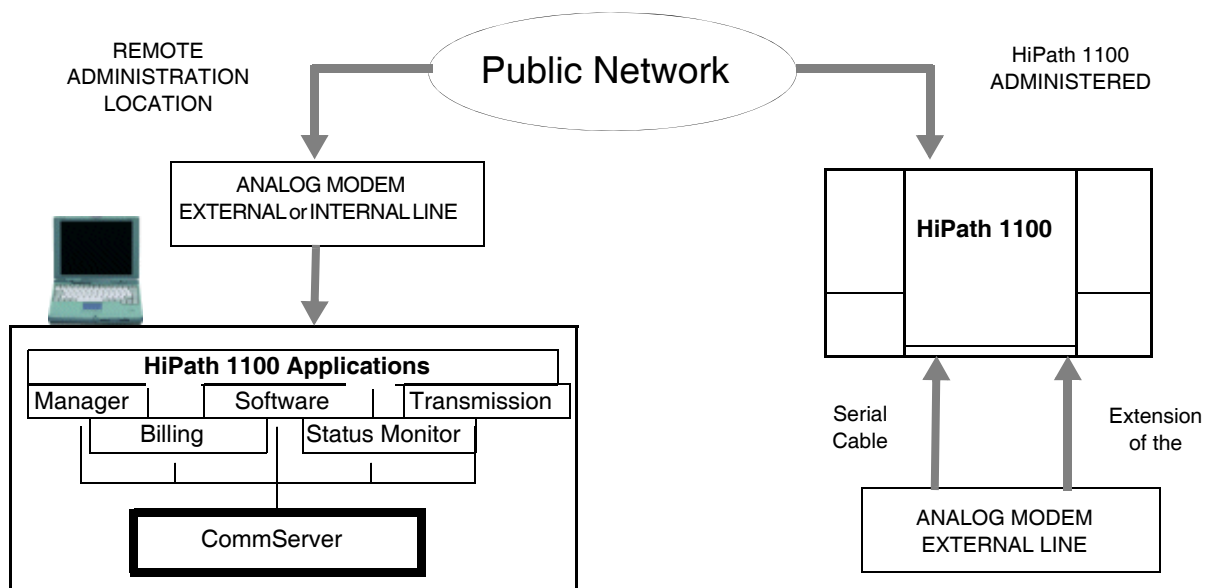


Figure 6-8 External analog modem connection

2. Insert the HiPath 1100 CD in the CD drive
If Auto-Run is not configured, go to the Windows Start menu, click Run and then select the Browse button in the dialog box. Open the SETUP.EXE file 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 each component is installed, a message is displayed indicating that the installation was completed successfully. Click "Next" every time it appears

Operation

System programming mode using a PC

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):

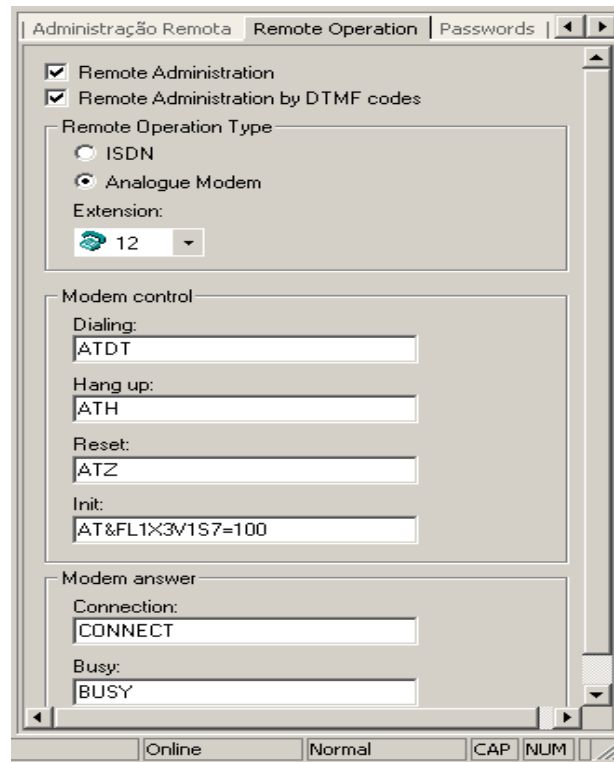


Figure 6-9 HiPath 1100 Manager Configuration - Analog modem

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

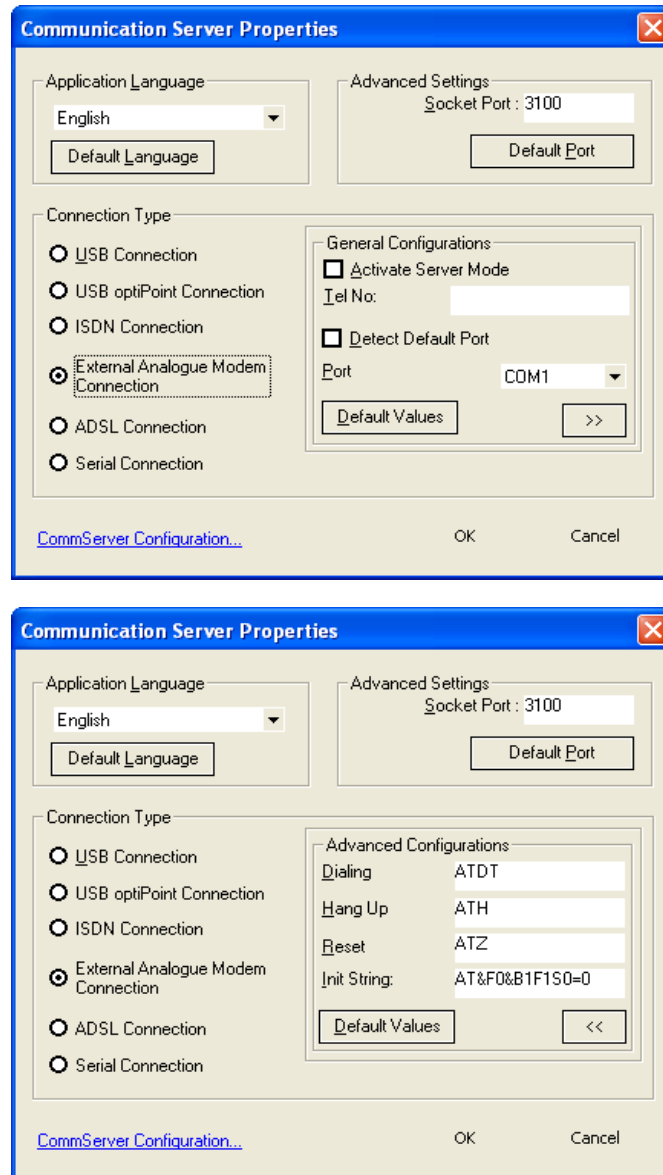


Figure 6-10 CommServer Configuration - Remote Analog modem

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

Operation

System programming mode using a PC



If you use the Trendnet V.92 56K - TFM-560X or D-Link V.90 56K - DFM - 560EL modem you will need to use the analog modem adapter cable (see "Adapter cable for analog modem" on page 3-116) and configure/check of the start-up and reset code of the modem connected to the switch using HiPath 1100 Manager. If the modem is connected to the PC (remote modem), the modem cable should be used and the initialization code set using CommServer.

This information can be obtained from the modem's instruction manual.

In the **Reset** field the default setting for these modems is as follows:

- US-ROBOTICS: ATZH0
- TrendNet: ATZH0
- D-LINK: +++,,,ATHATZH0

In the **Initialization** field, the default setting for these modems is as follows:

- US-ROBOTICS: AT&F0&B1F1S0=0
- TrendNet: AT&F0&B1F1&D0S0=0.
- D-LINK: AT&F0&D0S0=0

6.2.2.2 ISDN modem via S₀ 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.

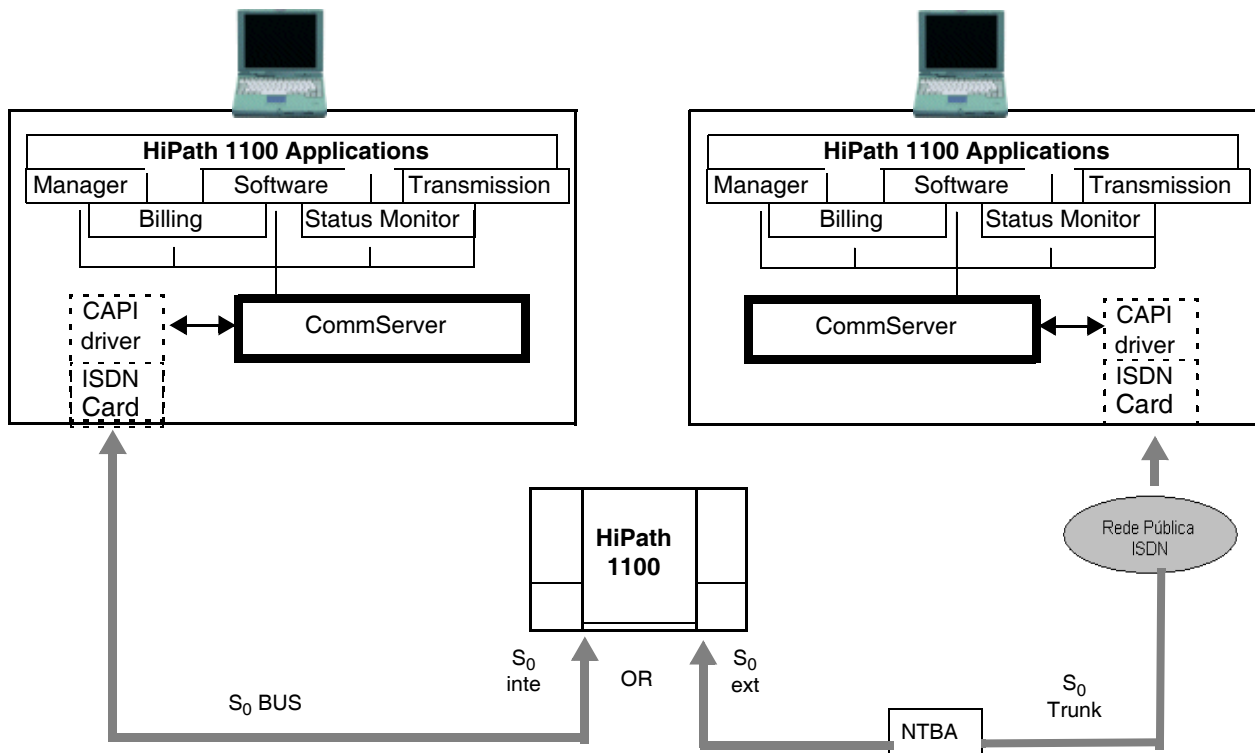


Figure 6-11 ISDN Configuration options

Procedure:

1. Check that the HiPath 1100 system is ON
2. Insert the system CD in the CD drive.
If Auto-Run is not configured, go to the Windows Start menu, click Run and then select the Browse button in the dialog box. Open the SETUP.EXE file 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 each component is installed, a message is displayed indicating that the installation was completed successfully. 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.

Operation

Driver Installation

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 S₀ Trunk
- Phone #: telephone number to be dialed by the CommServer.
- Your MSN: MSN of the CommServer.

or

- Connection Type: ISDN Connection via S₀ BUS
- Phone #: 800
- Your MSN: you do not need to fill this in.

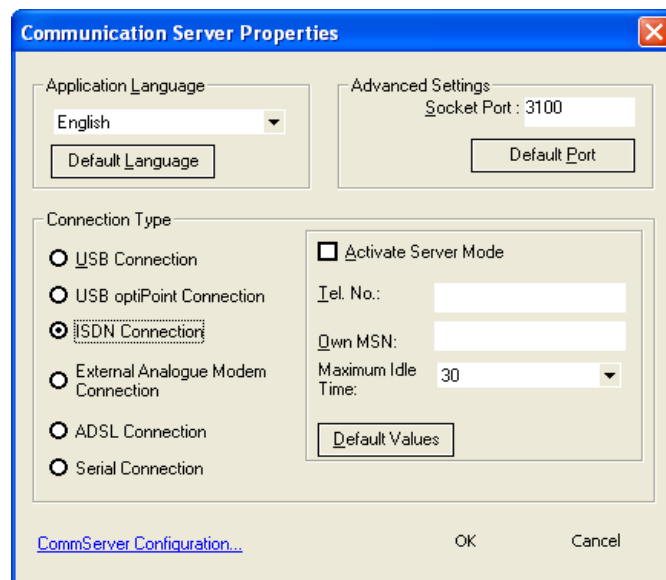


Figure 6-12 CommServer Properties - Configuration of ISDN connections

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

6.3 Driver Installation

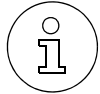
6.3.1 HiPath 1100 USB Drivers

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, install 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.

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 PC's CD drive
3. Select USB Drivers option

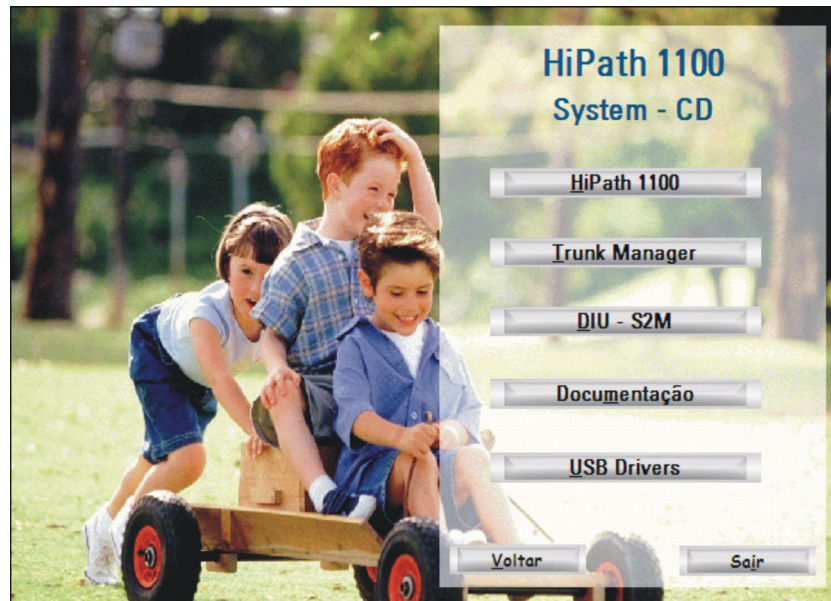


Figure 6-13 Installation Setup - USB Drivers

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	6-218
Windows ME	6-222
Windows 2000	6-225
Windows 2003	6-228
Windows XP	6-231

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 will appear. 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

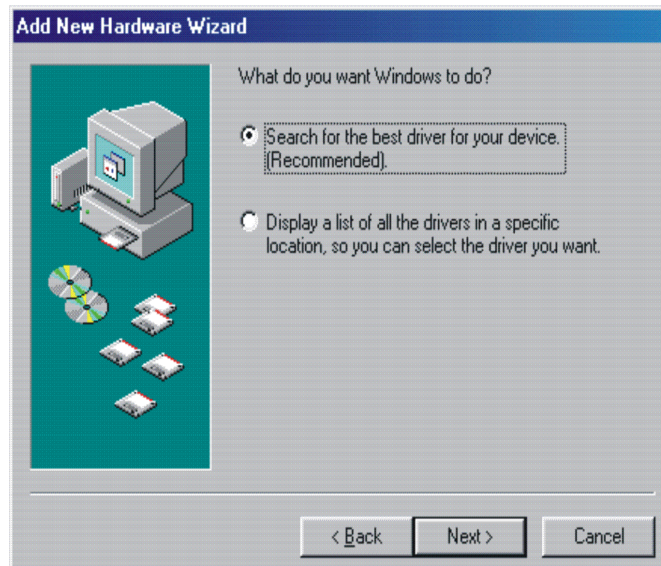


Figure 6-15 Windows 98 SE - USB Driver Installation

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 SoftwareUSB 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"

Operation

Driver Installation

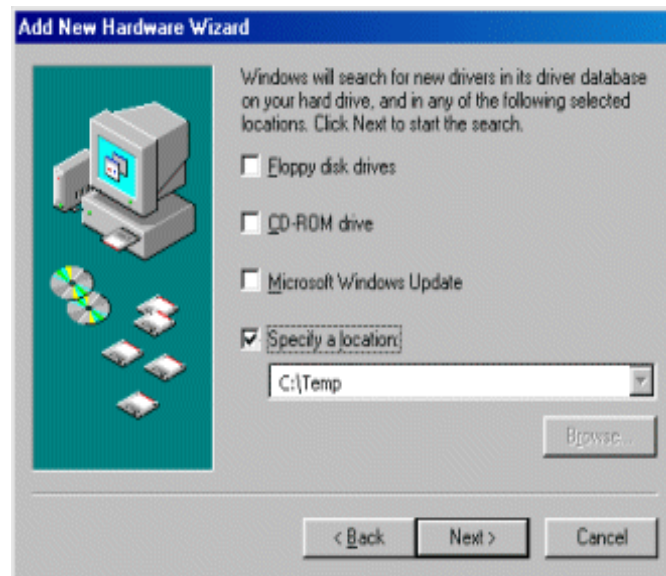


Figure 6-16 Windows 98 SE - USB drivers installation location

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

To install administration + CAPI Interface drivers, follow these steps:

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

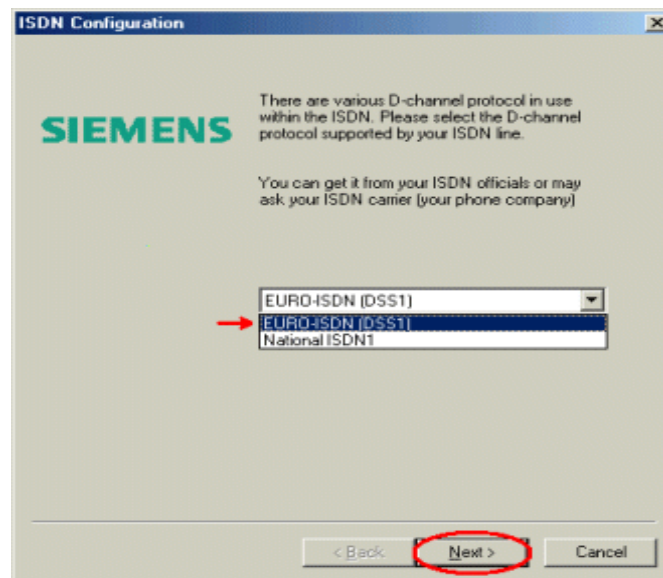


Figure 6-17 Windows 98 SE - selection for ISDN

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

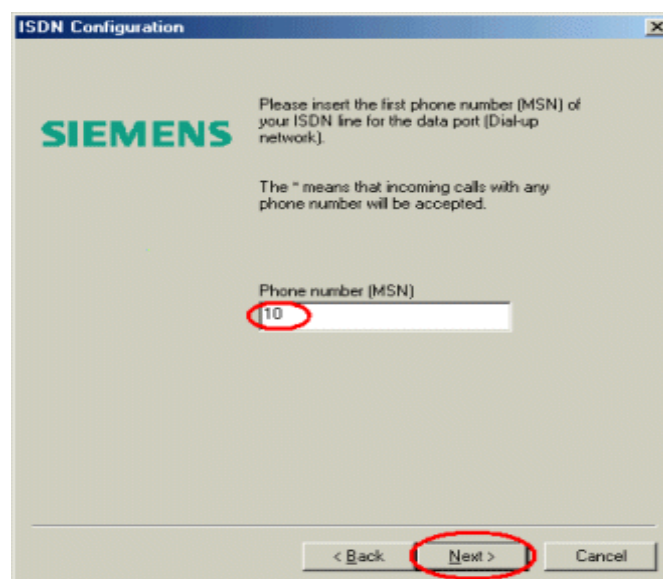


Figure 6-18 Windows 98 SE - MSN Number

11. The installation of the USB drivers is now complete. CAPI applications installation will now start automatically (see "CAPI Application setup" on page 6-252).

Operation

Driver Installation

Windows ME

1. Connect the HiPath 1100 system to the computer
2. The Add New Hardware wizard will appear. 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 in the \Software\USB Drivers folder of the CD. 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"

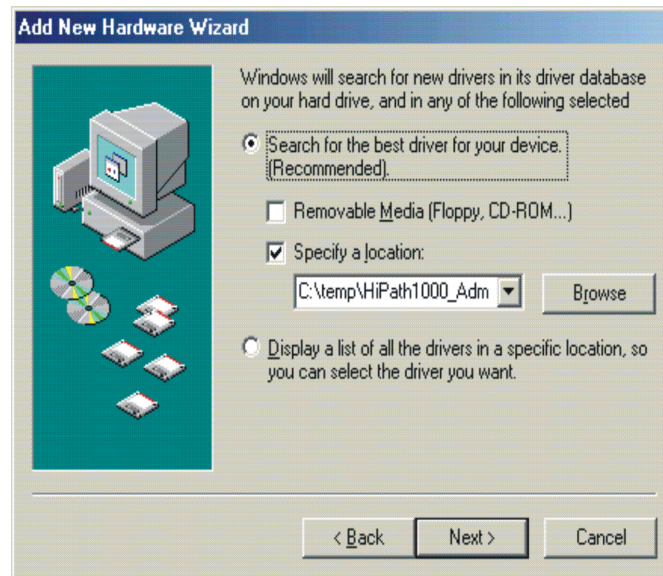


Figure 6-20 Windows ME - USB/CAPI installation location.

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

To install administration + CAPI Interface drivers, follow these steps:

8. A message will appear indicating that the best driver for the hardware has been found. Click "Next" to proceed.

Operation

Driver Installation

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

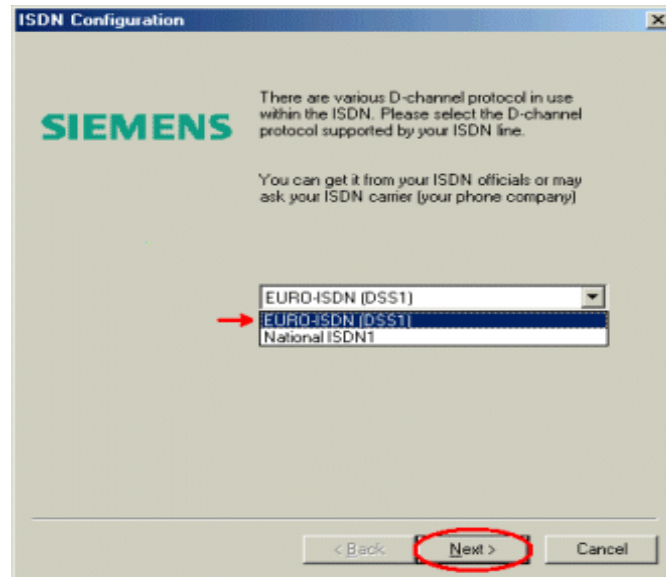


Figure 6-21 Windows ME - selection for ISDN

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

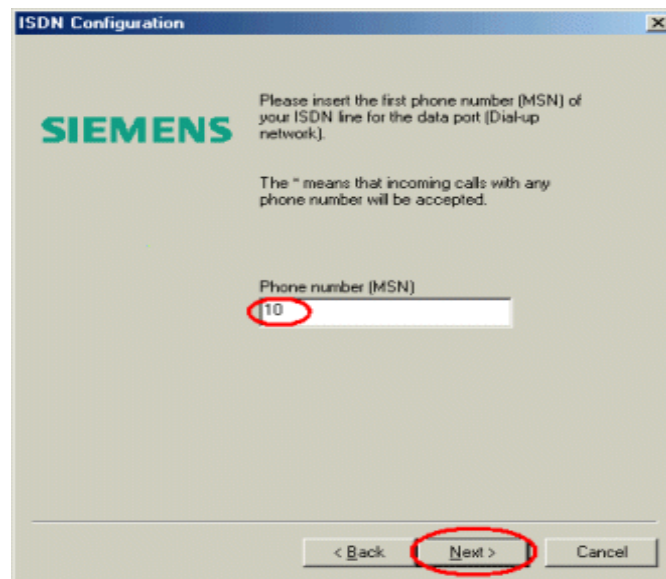


Figure 6-22 Windows SE - MSN Number

10. The installation of the USB drivers is now complete. CAPI applications installation will now start automatically (see “CAPI Application setup” on page 6-234).

Windows 2000



You must have administrator's access privileges to install any software

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 "Search for the best driver for your device" option and click "Next."

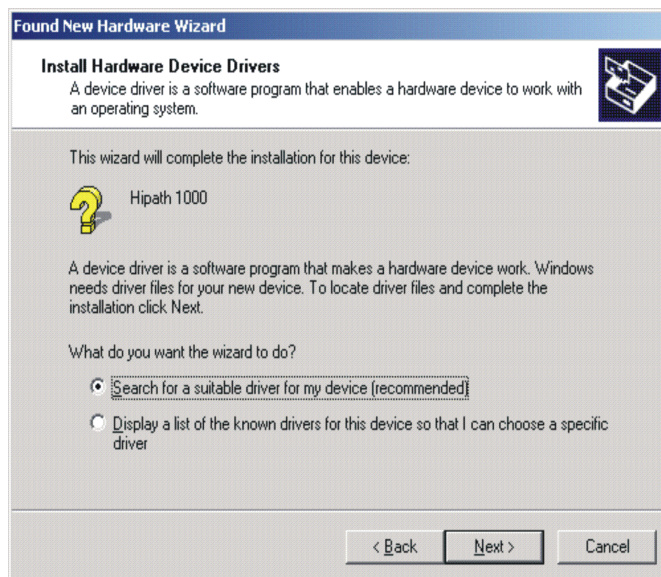


Figure 6-23 Windows 2000 - Driver location

Operation

Driver Installation

4. If it is not already selected, check the "Specify a location" box, then click "Next."

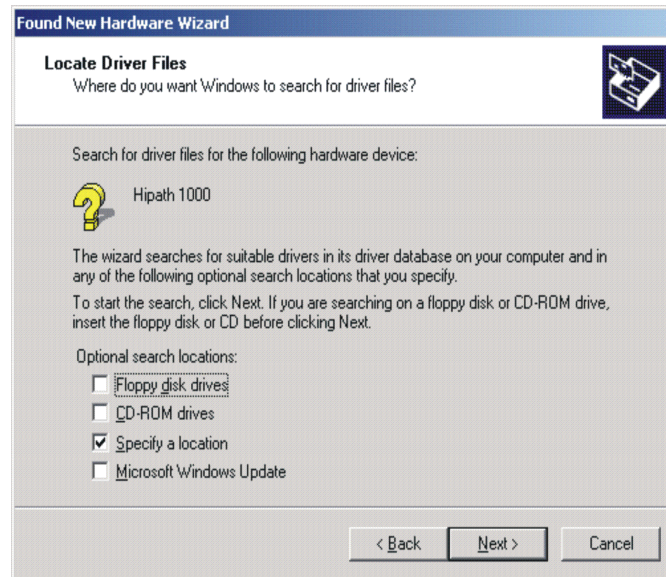


Figure 6-24 Windows 2000 - Driver location

5. A second window will open. Under Browse, select the directory where the decompressed driver is stored. Drivers can be found in the \Software\USB Drivers folder of the CD. The driver is decompressed in C:\Temp (Default). If the Administration driver is selected, the directory path will be C:\TempHiPath1100_Adm_Drivers_040. If you select the Administration + CAPI Interface, the directory path will be C:\TempHiPath1100_AdmCAPI_Drivers_040. Select a folder and click "Next"

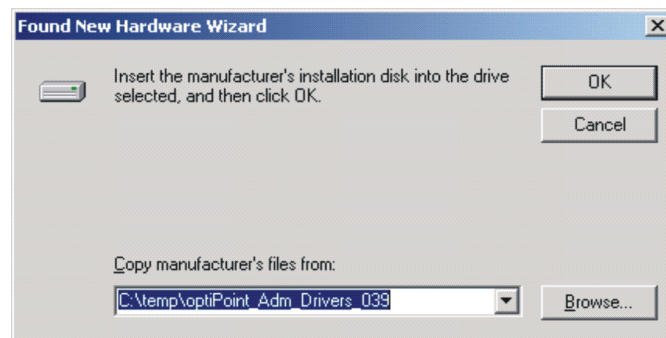


Figure 6-25 Windows 2000 - Driver location

6. A message will appear indicating that a driver has been found. Click "Next" to proceed.
7. A message will appear to the effect 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 will appear twice. Click "OK" every time it appears.
9. In the ISDN - HiPath 1000 window, select "European ISDN (DSS1)" then click "Next".

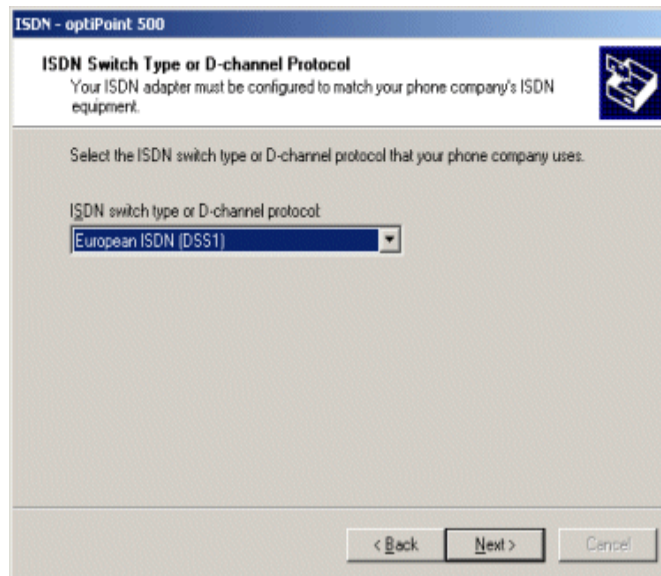


Figure 6-26 Windows 2000 - ISDN selection

10. Enter the MSN-CAPI number (see Table 7-3 on page 7-266) (for HiPath 1120/1150 the default extension is 10 and for HiPath 1190 the default extension is 100) in "Add," in the "Multi-subscriber Numbers" box.

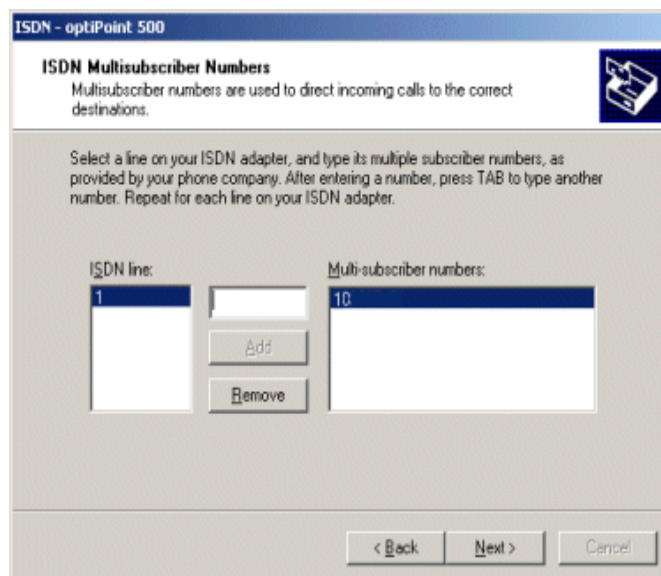


Figure 6-27 Windows 2000 - MSN

Operation

Driver Installation

11. The installation of the USB drivers is now complete. CAPI applications installation will now start automatically (see "CAPI Application setup" on page 6-234).

Windows 2003



You must have administrator's access privileges to install any software

Proceed as follows:

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



Figure 6-28 Windows 2003 - Driver location

3. A second window will open. 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 in the \Software\USB Drivers folder of the CD. 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"

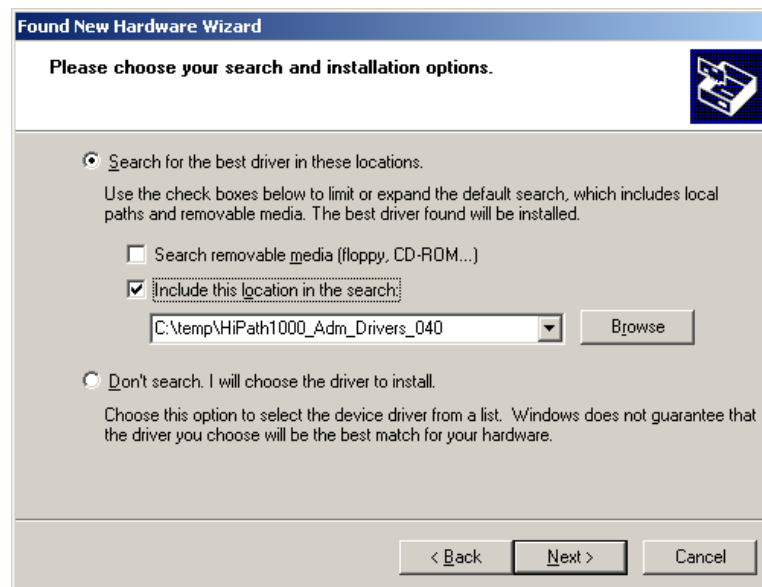


Figure 6-29 Windows 2003 - Drivers installation location

4. Once this is completed, the installation of the HiPath 1000 will start. A message will appear (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".

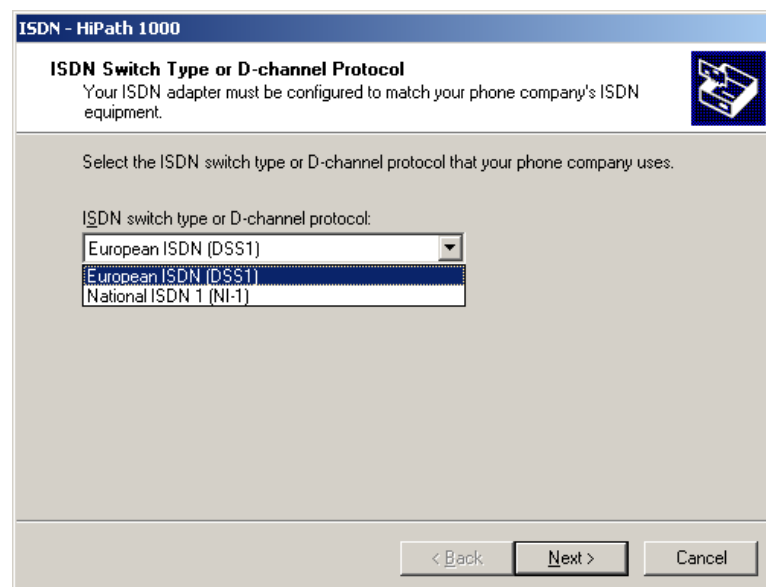


Figure 6-30 Windows 2003 - ISDN

Operation

Driver Installation

6. Enter the MSN-CAPI number (see Table 7-3 on page 7-266) (for HiPath 1120/1150 the default extension is 10 and for HiPath 1190 the default extension is 100) in "Add," in the Multi-subscriber Numbers" box.

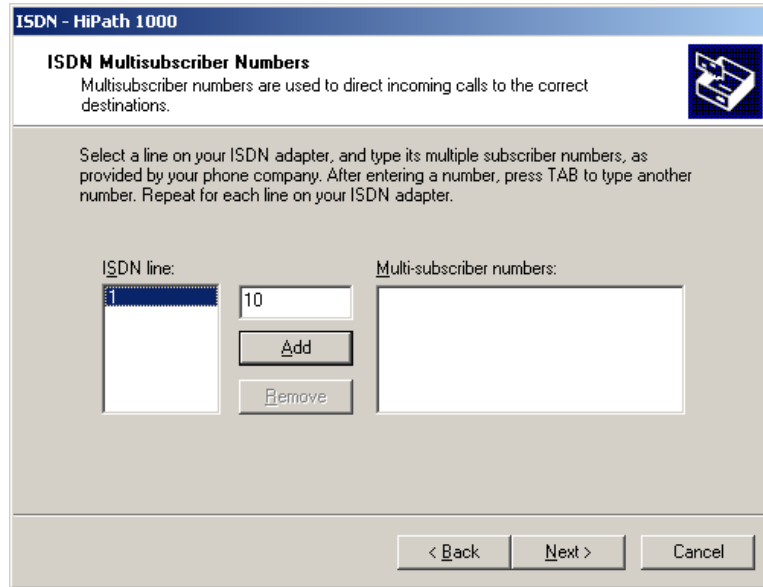
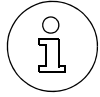


Figure 6-31 Windows 2003 - MSN

7. The installation of the USB drivers will be confirmed. Click "Finish."
8. A message will appear that HiPath 1000 drivers are being searched for. Repeat driver installation procedures for USB interface devices (Steps 1 to 3)
9. Click "Next" to proceed.
10. A message will appear twice to the effect that the driver does not have a Windows logo. Click "Continue" every time this message will appear.
11. The installation of the USB drivers is now complete. CAPI applications installation will now start automatically (see "CAPI Application setup" on page 6-234).

Windows XP



You must have administrator's access privileges to install any software

Proceed as follows:

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

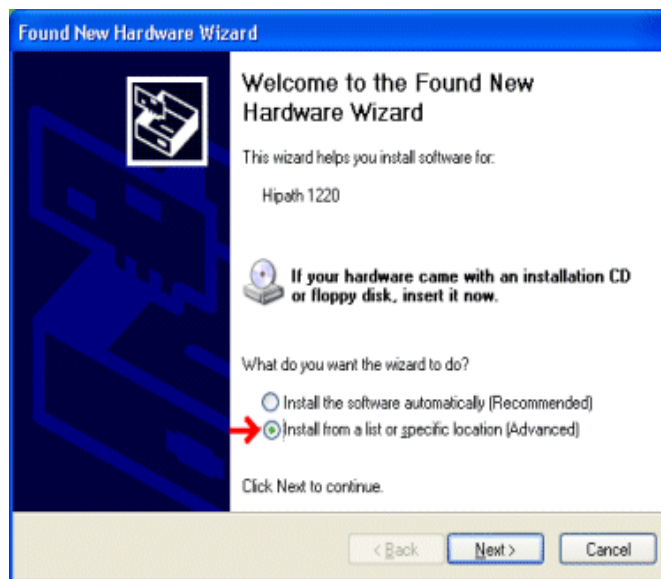


Figure 6-32 Windows XP - Driver location

3. A second window will open. 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 in the \Software\USB Drivers folder of the CD. 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"

Operation

Driver Installation

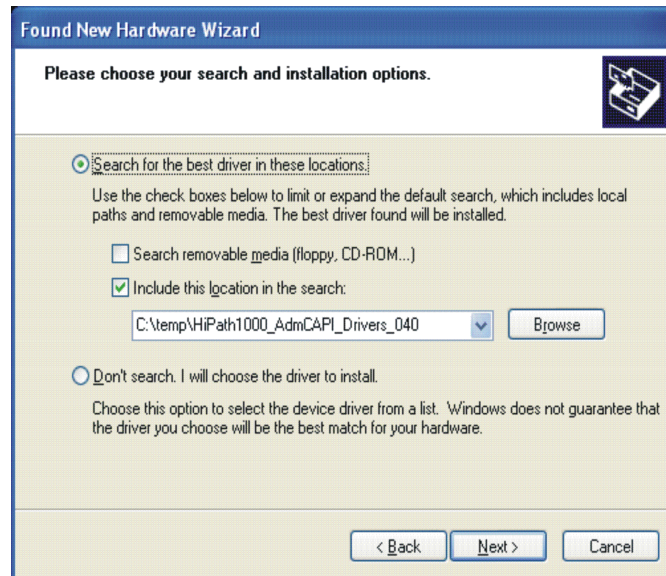


Figure 6-33 Windows XP - Driver installation location

- Once this is completed, the installation of the HiPath 1000 will start. A message will appear (three times) to the effect that the software installation did not pass the Windows logo test. Click "Next" every time it appears.
- In the ISDN - HiPath 1000 window, select "European ISDN (DSS1)" then click "Next".

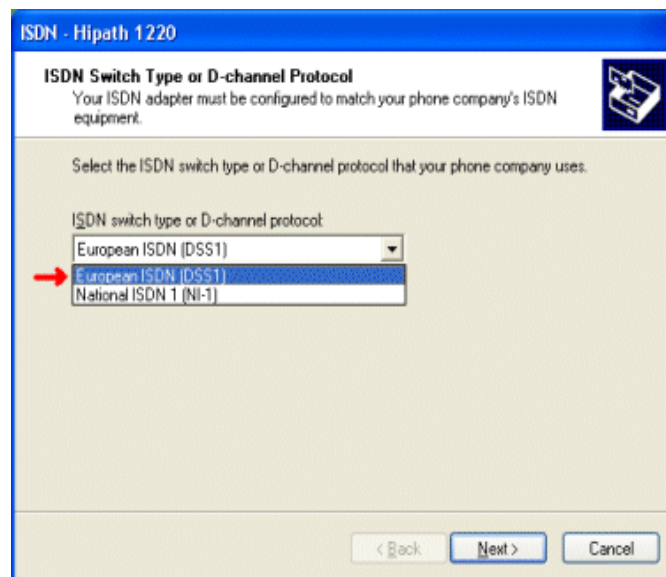


Figure 6-34 Windows XP - ISDN

6. Enter the MSN-CAPI number (see Table 7-3 on page 7-266) (for HiPath 1120/1150 the default extension is 10 and for HiPath 1190 the default extension is 100) in "Add," in the Multi-subscriber Numbers" box.

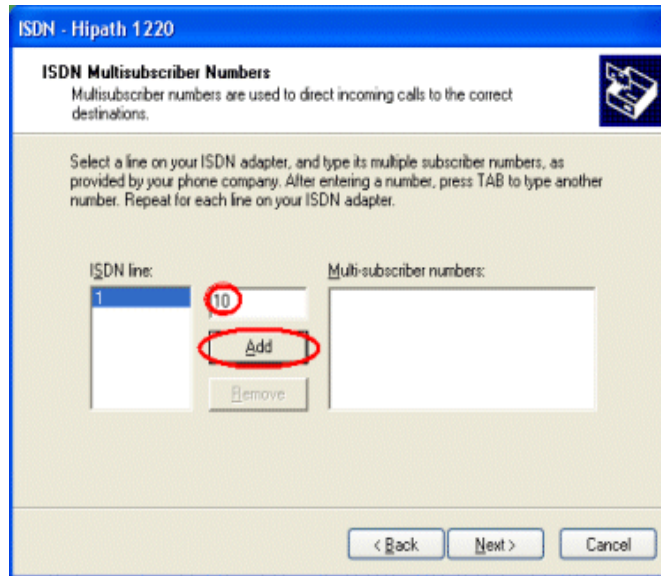


Figure 6-35 Windows XP - MSN

7. The installation of the USB drivers will be confirmed. Click "Finish."
8. A message will appear that HiPath 1000 drivers are being searched for. Repeat driver installation procedures for USB interface devices (Steps 1 to 3)
9. Click "Next" to proceed.
10. A message will appear twice to the effect that the driver does not have a Windows logo. Click "Continue" every time this message will appear.
11. The installation of the USB drivers is now complete. CAPI applications installation will now start automatically (see "CAPI Application setup" on page 6-234).

Operation

Driver Installation

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 you see the Welcome screen, click "Next" to proceed. The installation window will then 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 following 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 S₀ 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 that are open
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."

Operation

Driver Installation

Procedure:

6.3.2.1 Using the Installer

1. Check that the HiPath 1100 system is ON
2. Insert the HiPath 1100 CD in the PC's 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 into 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 in the \Software\USB Drivers folder of the CD. The drive is decompressed in C:\Temp (Default). If Admin is selected, use C:\TempoptiPoint_Adm_Drivers_039 directory. If Admin + CAPI is selected, use C:\TempoptiPoint_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 will open. 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 in the \Software\USB Drivers folder of the CD. The drive is decompressed in C:\Temp (Default). If Admin is selected, use C:\TempoptiPoint_Adm_Drivers_039 directory. If Admin + CAPI is selected, use C:\TempoptiPoint_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	6-237
Windows ME	6-240
Windows 2000	6-243
Windows 2003	6-247
Windows XP	6-249

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 will appear. A message will appear indicating that Setup will search for new Composite USB device drivers. Click "Next" to proceed.
3. Select the "Search for the best driver for your device (Recommended)" option and click "Next" to confirm

Operation

Driver Installation

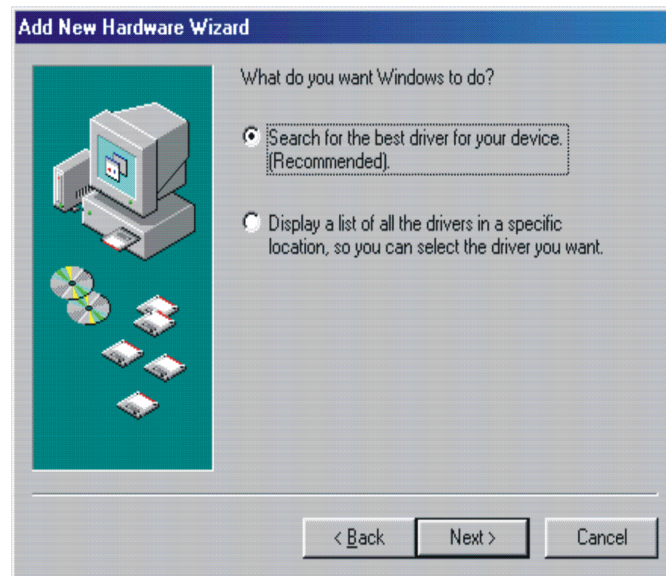


Figure 6-36 Windows 98 SE - USB drivers installation location

4. Select the "Specify a location:" checkbox and click "Browse" to select the directory where the uncompressed optiPoint's CallBridge for Data is located. Drivers can be found in the \Software\USB Drivers folder of the CD. The drive is decompressed in C:\Temp (Default). If Admin is selected, use C:\TempoptiPoint_Adm_Drivers_039 directory. If Admin + CAPI is selected, use C:\TempoptiPoint_AdmCAPI_Drivers_039. Select a folder and click "Next"

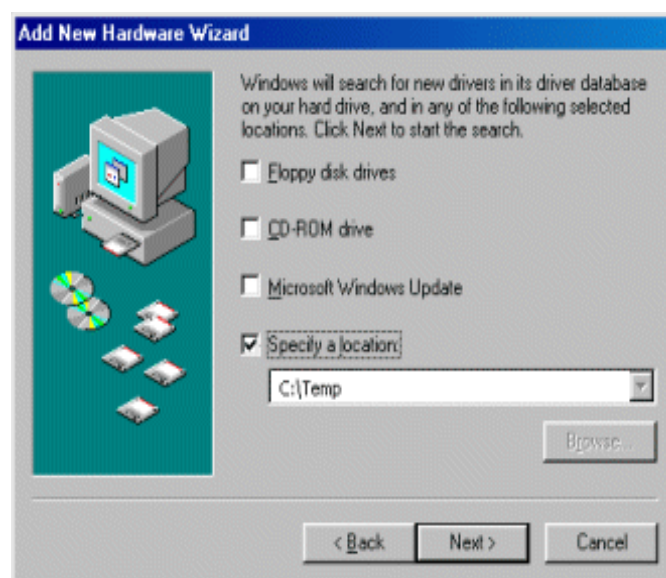


Figure 6-37 Windows 98 SE - USB drivers installation location

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

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

To install administration drivers + CAPI optiPoint Interface, please follow these steps:

7. During installation of optiPoint (CAPI Interface) configure these two settings:
 - In the following window, select "EURO-ISDN (DSS1)" and click "Next":

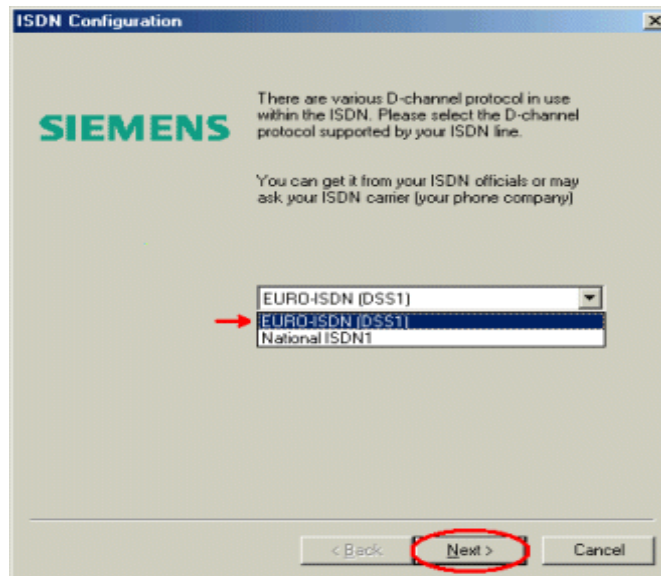


Figure 6-38 Windows 98 SE - selection for ISDN

- 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 will appear again. Click "Next" one more time without entering anything in any field:

Operation

Driver Installation

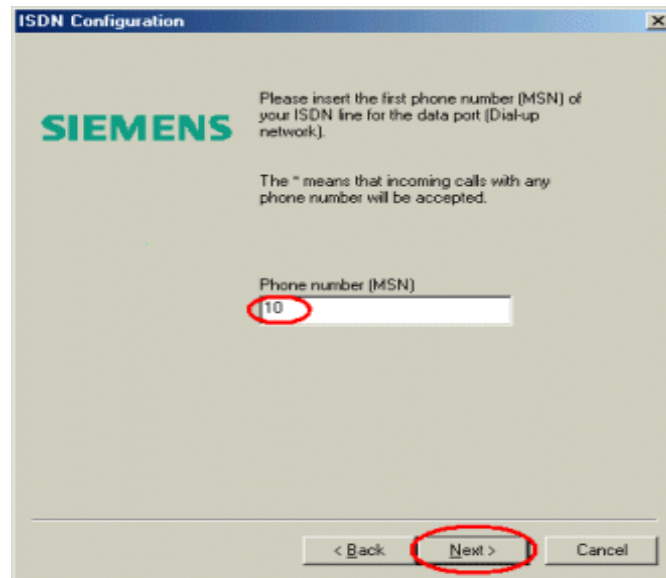


Figure 6-39 Windows 98 SE - MSN Number

10. The installation of the USB drivers is now complete. CAPI applications installation will now start automatically (see "CAPI Application setup" on page 6-252).

Windows ME

1. Connect the HiPath 1100 system to the computer
2. The Add New Hardware wizard will appear. 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.

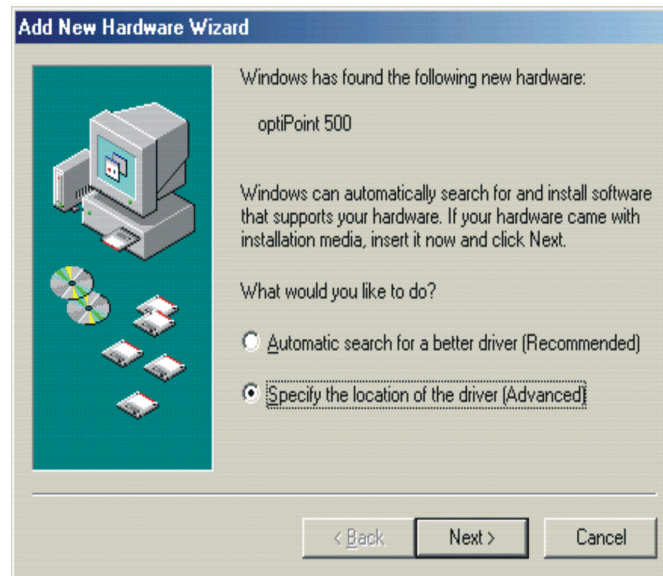


Figure 6-40 Windows ME - Specify installation folder

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 in the \Software\USB Drivers folder of the CD. The drive is decompressed in C:\Temp (Default). If Admin is selected, use C:\TempoptiPoint_Adm_Drivers_039 directory. If Admin + CAPI is selected, use C:\TempoptiPoint_AdmCAPI_Drivers_039. Select a folder and click "Next"

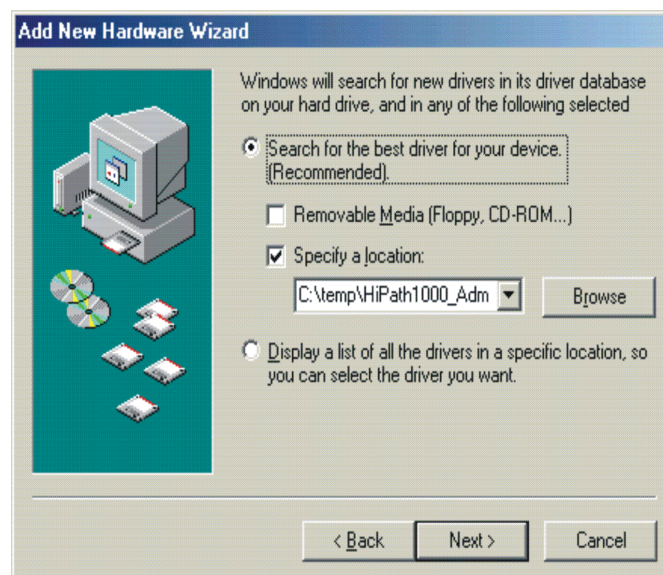


Figure 6-41 Windows ME - Specify installation folder

Operation

Driver Installation

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

To install administration drivers + CAPI optiPoint 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 following window, select "EURO-ISDN (DSS1)" and click "Next":

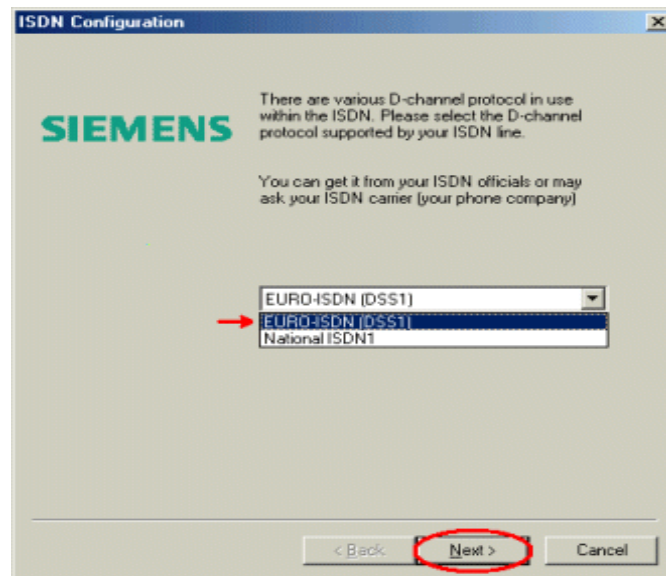


Figure 6-42 Windows ME - selection for ISDN

- 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 will appear again. Click "Next" one more time without entering anything in any field:

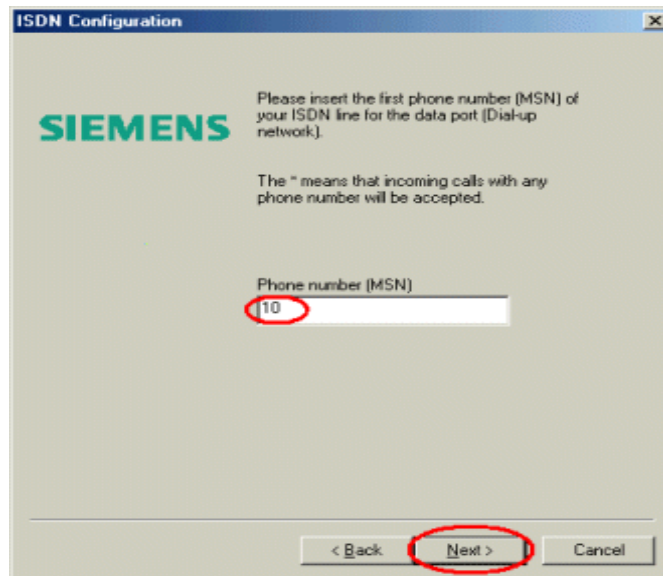
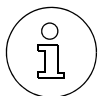


Figure 6-43 Windows SE - MSN Number

10. The installation of the USB drivers is now complete. CAPI applications installation will now start automatically (see "CAPI Application setup" on page 6-252).

Windows 2000



You must have administrator's access privileges to install any software

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 "Search for the best driver for your device" option and click "Next."

Operation
Driver Installation

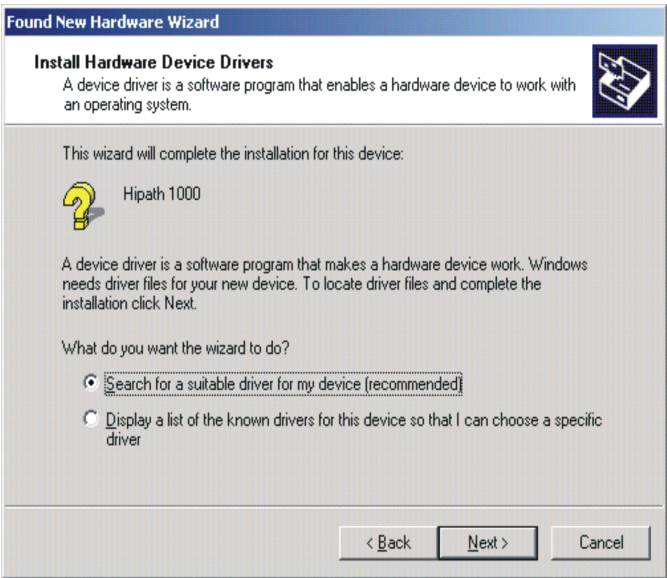


Figure 6-44 Windows 2000 - Driver location

4. If it is not already selected, check the "Specify a location" box, then click "Next."

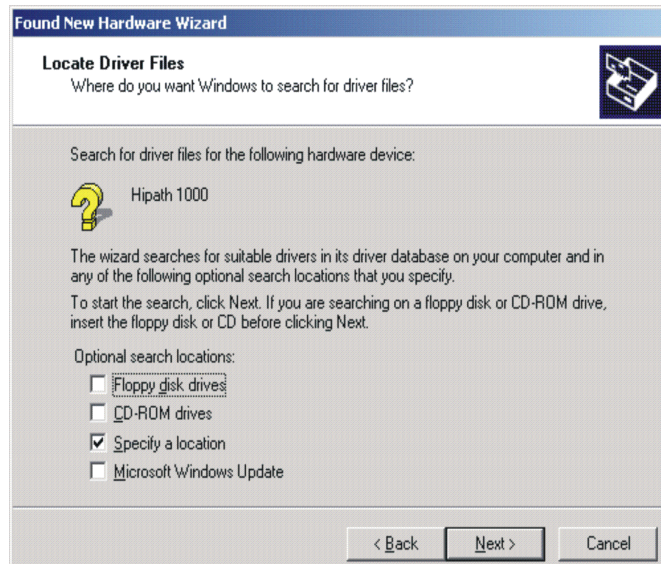


Figure 6-45 Windows 2000 - Driver location

5. A second window will open. Under Browse, select the directory where the decompressed driver is stored. Drivers can be found in the \Software\USB Drivers folder of the CD. The drive is decompressed in C:\Temp (Default). If Admin is selected, use C:\TempoptiPoint_Adm_Drivers_039 directory. If Admin + CAPI is selected, use C:\TempoptiPoint_AdmCAPI_Drivers_039. Select a folder and click "Next"

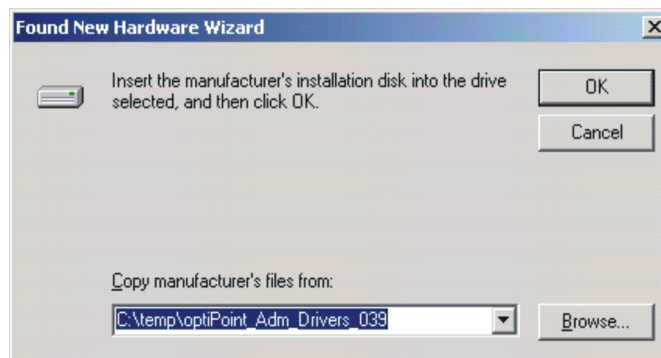


Figure 6-46 Windows 2000 - Driver location

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

Operation

Driver Installation

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

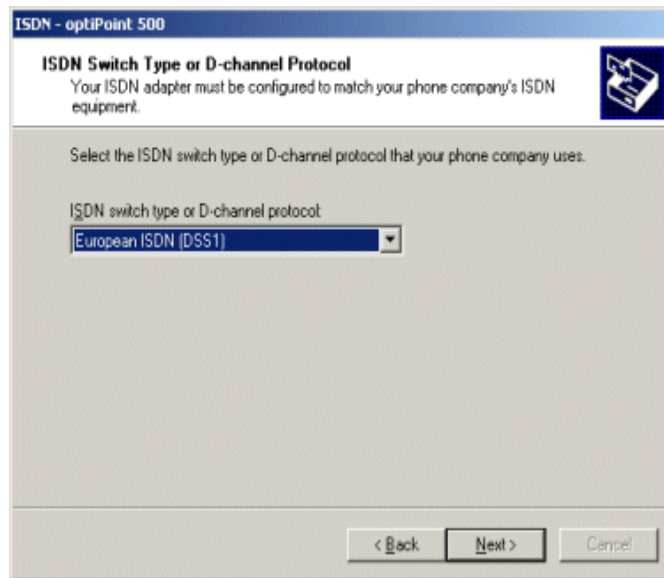


Figure 6-47 Windows 2000 - ISDN selection

10. Enter the MSN-CAPI number (see Table 7-3 on page 7-266) (for HiPath 1120/1150 the valid extension range is X-Y) in "Add," in the Multi-subscriber Numbers" box.

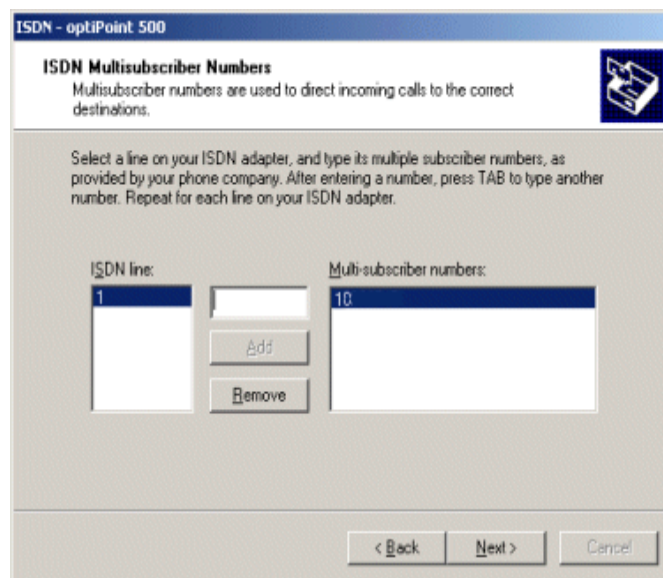
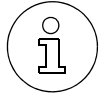


Figure 6-48 Windows 2000 - MSN

11. The installation of the USB drivers is now complete. CAPI applications installation will now start automatically (see "CAPI Application setup" on page 6-252).

Windows 2003



You must have administrator's access privileges to install any software

Proceed as follows:

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

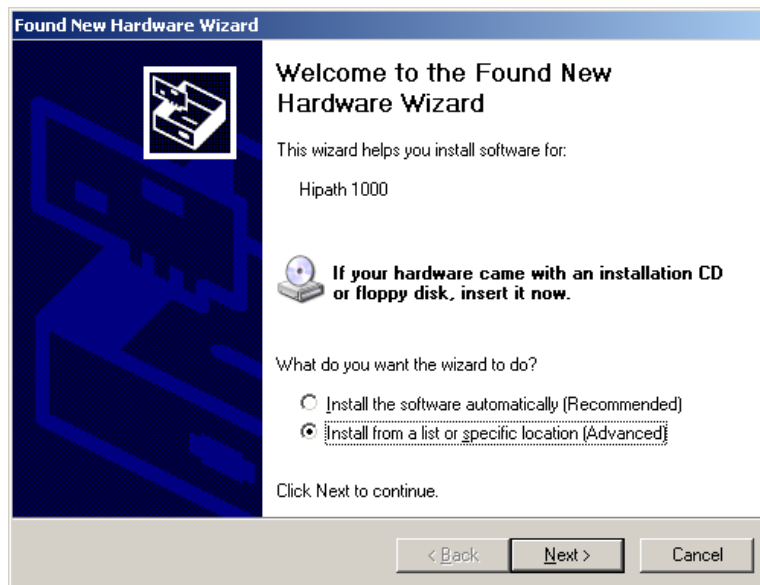


Figure 6-49 Windows 2003 - Driver location

3. A second window will open. 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 in the \Software\USB Drivers folder of the CD. 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"

Operation

Driver Installation

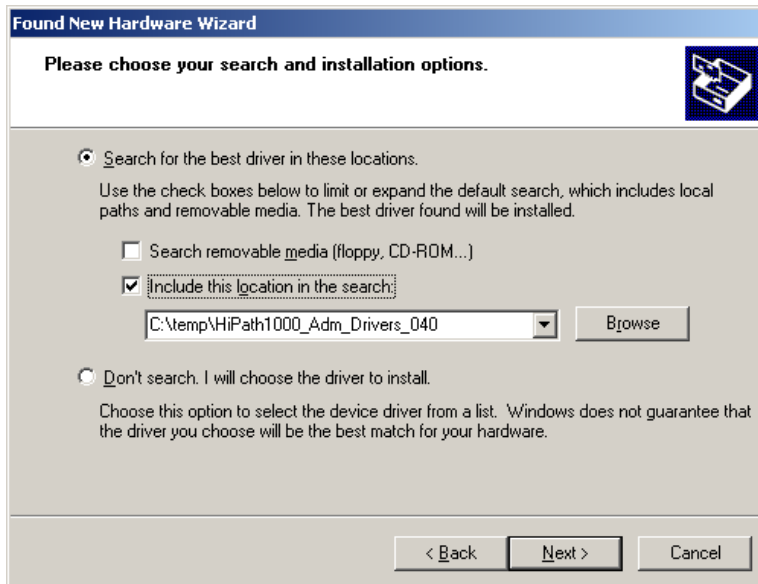


Figure 6-50 Windows 2003 - Driver location

4. Once this is completed, the installation of the optiPoint driver will start. A message will appear (three times) to the effect that the software installation did not pass the Windows logo test. Click "Continue" every time this message will appear.
5. In the ISDN - optiPoint window, select "European ISDN (DSS1)" then click "Next"

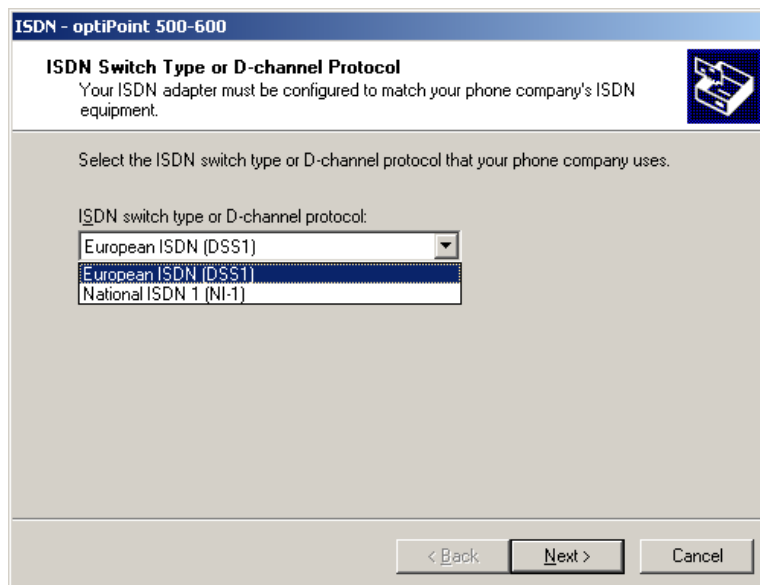


Figure 6-51 Windows 2003 - ISDN

6. Enter the MSN-CAPI number (see Table 7-3 on page 7-266) (valid extension range is X-Y) in "Add," in the Multi-subscriber Numbers" box.

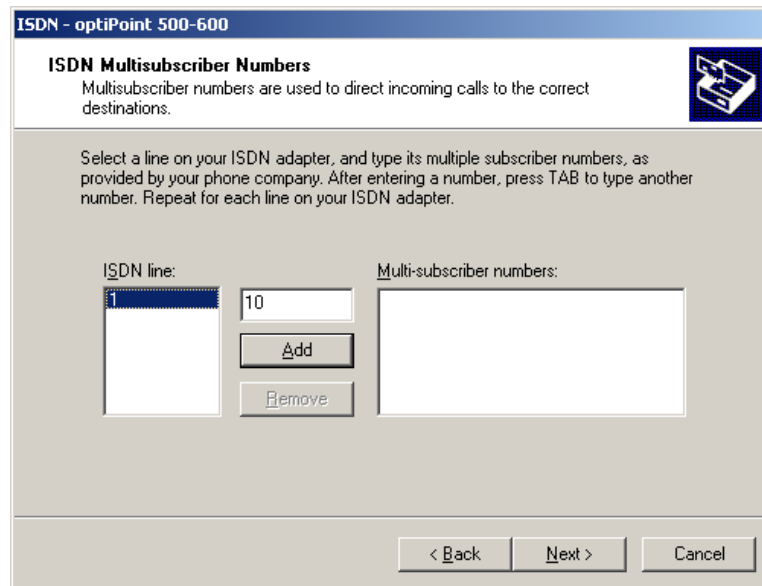
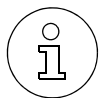


Figure 6-52 Windows 2003 - MSN

7. The installation of the USB drivers will be confirmed. Click "Finish."
8. A message will appear that HiPath 1000 drivers are being searched for. Repeat driver installation procedures for USB interface devices (Steps 1 to 3)
9. Click "Next" to proceed.
10. A message will appear twice to the effect that the driver does not have a Windows logo. Click "Continue" every time this message will appear.
11. The installation of the USB drivers is now complete. CAPI applications installation will now start automatically (see "CAPI Application setup" on page 6-252).

Windows XP



You must have administrator's access privileges to install any software

Proceed as follows:

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

Operation

Driver Installation

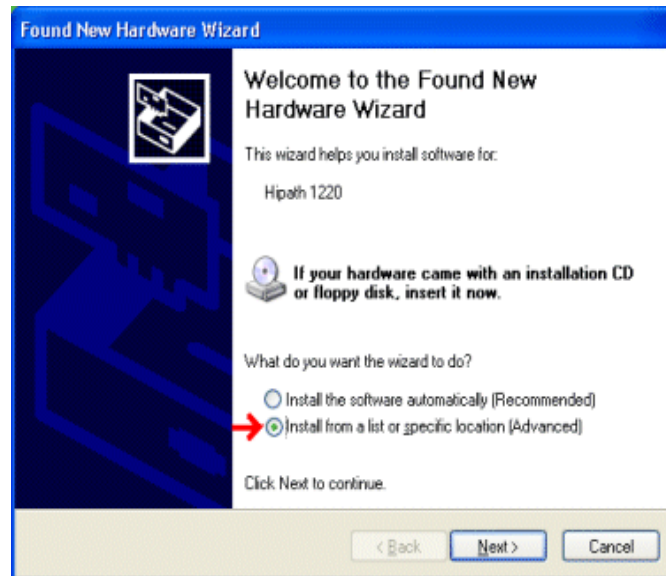


Figure 6-53 Windows XP - Driver location

3. A second window will open. 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 in the \Software\USB Drivers folder of the CD. The drive is decompressed in C:\Temp (Default). If Admin is selected, use C:\TempoptiPoint_Adm_Drivers_039 directory. If Admin + CAPI is selected, use C:\TempoptiPoint_AdmCAPI_Drivers_039. Select a folder and click "Next"

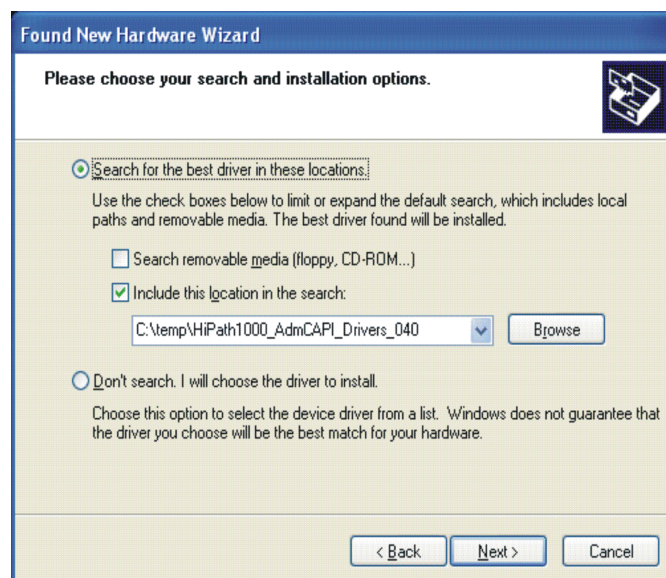


Figure 6-54 Windows XP - Driver location

4. Once this is completed, the installation of the optiPoint driver will start. A message will appear (three times) to the effect that the software installation did not pass the Windows logo test. Click "Continue" every time this message will appear.
5. In the ISDN - optiPoint window, select "European ISDN (DSS1)" then click "Next"

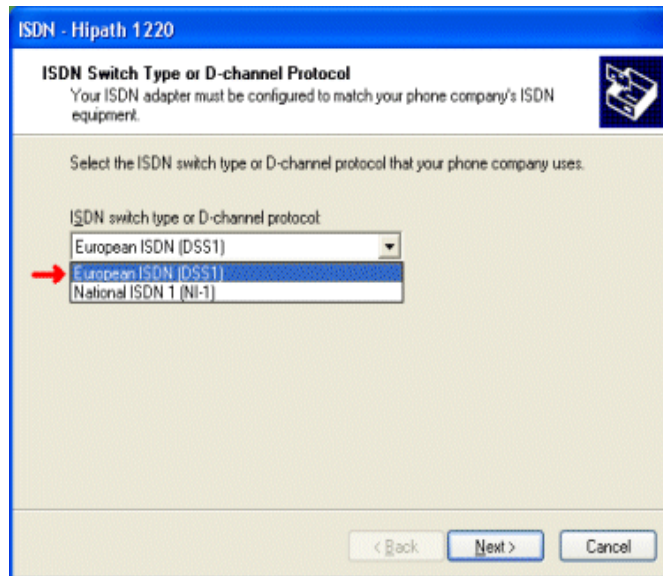


Figure 6-55 Windows XP - ISDN

6. Enter the MSN-CAPI number (see Table 7-3 on page 7-266) (valid extension range is X-Y) in "Add," in the Multi-subscriber Numbers" box.

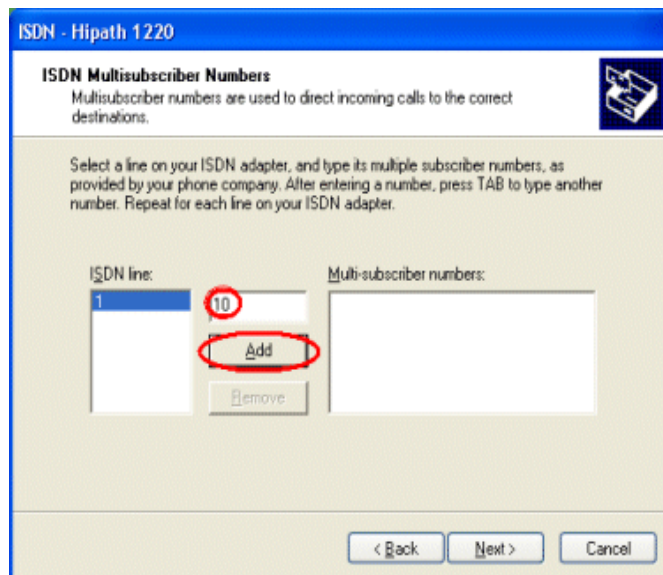


Figure 6-56 Windows XP - MSN

Operation

Driver Installation

7. The installation of the USB drivers will be confirmed. Click "Finish."
8. A message will appear that HiPath 1000 drivers are being searched for. Repeat driver installation procedures for USB interface devices (Steps 1 to 3)
9. Click "Next" to proceed.
10. A message will appear twice to the effect that the driver does not have a Windows logo. Click "Continue" every time this message will appear.
11. The installation of the USB drivers is now complete. CAPI applications installation will now start automatically (see "CAPI Application setup" on page 6-252).

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 you see the Welcome screen, click "Next" to proceed. The installation window will then 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 following 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 S₀ 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 7.0 application installation overwrites any previous installations of HiPath 1100. No messages will be displayed during the process to warn the user that previous versions of HiPath 1100 are being removed

Both versions are supported - a HiPath 1100 version 5.2 or 6.0 PABX can be managed using HiPath 1100 Version 7.0, as they are compatible

You cannot have different versions 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 are interfaces between a Windows operating system and a TAPI-compatible telephone system. If a previous version (ESL or HiPath 1100) TAPI driver is already installed, you will need to update it to a HiPath 1100 V7.0 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 SNMP

The SNMP - Simple Network Management Protocol - is a TCP/IP protocol that provides a user-friendly platform for managing software for systems connected to the TCP/IP network. The SNMP is used practically as a "Management agent" on the HiPath 1100, allowing central monitoring and management of the PABX.

Each PABX managed by the SNMP has a set of variables that store information on its current state. This volume of data managed by the SNMP is defined in the MIBs - Management Information Bases. MIBs are data models that describe all the necessary information for managing the network.

To be able to access this information, you need to install and connect the LAN ports **of the SLIMC, SADSLIM, LIMC or ADSLIM modules** to the TCP/IP network. That way, any available information may be accessed from external management applications such as HP Open View. In other words, the PABX is monitored by management software run in a server station. The SNMP service will provide information to the PABX via the Agent when it receives requests from the Manager connected via the TCP/IP network. The Agents and Managers communicate using SNMP messages that control the external applications.

SNMP messages

The SNMP messages used for communication between the SNMP management agent (HiPath 1100) and the external applications are controlled by the following commands:

- **Get**, used when the manager requests the agent to obtain data.
- **Get Next**, used when the manager requests the agent to obtain a sequential reading of data.
- **Set**, used when the manager requests the agent to alter an item of data.
- **Trap**, used by the agent to communicate a previously defined event to the manager.

There is an integrated mechanism to manage SNMP "traps" if a class B error occurs. The SNMP management agent assesses the error messages, and if they have a corresponding definition, certain "traps" are put into place sent as groups of data to a configurable IP address. A maximum of five applications are available that support SNMP version 1.0, such as the HP Open View.

Operation

HiPath 1100 applications



This option will only be active in HiPath 1100 Manager if the **SLIMC, SADSLIM, LIMC or ADSLIM** modules are configured.

6.4.3 HiPath 1100 Manager

The HiPath 1100 Manager is an administration software designed for programming HiPath 1100 systems quickly and easily using 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: The system can be accessed locally through a LAN as long as there is a network PC connected to the HiPath 1100 via serial interface, 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 the PABX.

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



If the database has been previously saved in earlier versions and you want to update the database to HiPath 1100 V7.0, all you need to do is restore the *.bup file and the system will run an automatic update. Once the restore process is completed, a popup message will appear 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.

6.4.4 HiPath 1100 ADSL Manager

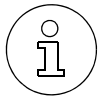
The HiPath 1100 ADSL Manager is an administrative program for programming an ADSL module.

Hardware Requirements:

- 10/100 Base-T network 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 or Subnet Mask, enter code 013 for "Restoring default LAN interface settings" after which the IP ADSL module will be 10.0.0.1.

Once you have installed your ADSL access, and connected 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 further details on how to configure an ADSL module, see the HiPath 1100 ADSL Manager "Help" system.

6.4.5 Siemens Admin Console

This is an administrative program for programming an ADSL module.

The modules can be configured by accessing their IP number (Default = 192.168.254.253) from your web browser <http://192.168.254.253> (Microsoft Internet Explorer or Netscape Navigator, V. 5.0 higher).

The Siemens Admin Console provides a series of "tabs" in which you can check or change settings.

General Information:

- Default IP of the modem: 192.168.254.254
- Default IP of the module: 192.168.254.253
- Default Subnet Mask of the module: 255.255.255.0
- Default Gateway of the module: 192.168.254.254
- Default User - **admin**
- Password - **31994**

Operation

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Info Tab

Shows general information on the module.

Status Tab

Shows information on the status of the connections:

- LAN configuration
- Available physical connections
- Connections of the ADSL modem.

System Tab

Shows information on the interface:

- Password change - changes the access password
- Firmware Upgrade - updates the firmware, with an option to select the "Erase JFFS2 partition" checkbox if you wish to delete the previous settings of the module when you update.

Network Tab

Shows information on the internal configuration of the module.

- LAN - shows the current configuration and allows you to change parameters (IP address, Netmask, Gateway and DHCP Client number).
- Hosts - shows the IP addresses and the name of the Hosts set in the module and also allows you to add or remove existing hosts.
- HiPath - shows the current version of the module and allows update to V 5.2, V6.0 or V7.0.



The SLIMC, SADSLIM, LIMC and ADSLIM modules are factory configured to version 7.0, and may be set to versions 5.2 and 6.0 using the Network -> HiPath tab.

6.4.5.1 Configuring the SpeedStream 4100 modem

Once you have installed the ADSL access to you provider and the connections to HiPath 1100, you may need to adjust the parameters of the SADSLIM (HiPath 1120) and ADSLIM (HiPath1150/1190/1190R) modules of the ADSL modem.

These adjustments can be made by going to their IP number(192.168.254.254 - Default) from your Web browser <http://192.168.254.254> (Microsoft Internet Explorer or Netscape Navigator, version 5.0 or higher) where you must configure the information of the ADSL and VPI/VCI protocols used by the operator, DNS, user name and password of the provider.



The ADSL modem used is the Siemens SpeedStream 4100. You can consult the configuration instructions in the manual which you will find in the Setup and Installation CD.

6.4.6 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:

With the E1 Trunk Manager you can do the following:

- 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 further 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 3-67).

Operation

HiPath 1100 applications

6.4.7 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:

With the S2M Maintenance you can do the following:

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

For further 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 3-67).



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

6.4.8 Account Manager (CDR)

Billing Data Software

To launch the Account Manager select:

Start/Programs/HiPath 1100/Call Detail Recording

6.4.9 Status Monitor indicator

Status Monitor Indicator on the computer.

To start a Status Monitor Indicator, select:

Start/Programs/HiPath 1100/StatusMonitor

6.4.10 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

6.4.11 Software Update

HiPath 1100 system software updates are made using the 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 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).

For further information, consult the HiPath 1100 Manager Help file.

6.4.12 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.

6.4.13 Interaction Center Smart (Optional Software)

This software application can be used with the HiPath1150/1190/1190R 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.

6.4.14 TAC Smart - Telephony Advanced Control (optional software)

This application can be used with the HiPath1150/1190/1190R 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.

6.4.15 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. Subsequently, it can generate reports containing total cost by extensions, sectors, and groups, among others, in addition to incoming and outgoing traffic reports.

All the information is specified in the CallReport database and can be manipulated by the user logged in as Administrator.

6.4.16 VMle Protocol (Voice Mail Interface - extended)

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

1	Type of Call (TOC) Required 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 Fixed size: 6 DTMF signals Format: “****i” (i = calling extension) External call format: always “*****” Note: if an extension is longer, the DTMF digit “*” in the protocol is replaced by the additional extension digit.			
3	Extension called Required element for calls Type 3 and 4. This element remains blank for all types of calls. Fixed size: 6 DTMF signals Format: “****i” (i = extension called) Note: if an extension is longer, the DTMF digit “*” in the protocol is replaced by the additional extension 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 user on an analog line.		
	4	The calling extension is an external user on a digital line		

Operation

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Examples:

1. Internal call from Extension 16 to the VMle Group: ***1***16*1
2. Direct internal call from Extension 15 to Extension 11, forwarded to the VMle Group (*11):
315***11*1
3. Direct internal call from Extension 11 to Extension 15, forwarded to the VMle Group configured as second Attendant. ***4***11***15*1
4. Incoming call over an external analog line to Extension 11, forwarded (*11) to the VMle Group: ***3*****11*3
5. Incoming call over a digital line to Extension 11, forwarded (*11) to the VMle Group:
3**11*4
6. Incoming call over an external analog line to Extension 12 which is forwarded to the VMle Group configured as Second Attendant: ***4*****12*3
7. Incoming call over a digital line to Extension 12, forwarded to the VMle Group configured as second Attendant. ***4*****12*4
8. Direct internal call from Extension 1015 to Extension 1011, forwarded to the VMle Group (*11): ***3**1015**1011*1
9. Direct internal call from Extension 10015 to Extension 10011, forwarded to the VMle Group configured as second Attendant. ***4*10015*10011*1.

Voice Mail Protocol for the system:

The Voice Mail indicates when there is a message waiting at an extension's mailbox using 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 VMle Group. In addition, these codes can be re-programmed if they are not supported by the Voice mail system. Please check the 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 code: <i>beep (Brazil)</i> .	Start the program.
4.	When an incorrect setting is entered: <i>3 beeps (Brazil)</i> .	System data are automatically imported.
5.	When completed: <i>1 beep (Brazil)</i> .	Start programming.
6.	End programming: press “#” key or replace handset.	Export the new configuration settings.

Table 7-1 Configuration procedure summary

7.1 Numbering Plan

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

Detection	HiPath 1120	HiPath 1150	HiPath 1190
1.	Motherboard	TME1 module 1	Analog modules
2.	S ₀ module	Motherboard	TME1 module 1
3.	Analog modules	S ₀ module	S ₀ module
4.		Analog modules	

Table 7-2 Detection sequence of the modules

Configuring the system specifically for the client

Numbering Plan

Numbering

Description	HiPath 1120	HiPath 1150	HiPath 1190
External line	801 to 806	801 to 832	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		
UCD 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		
MSN-CAPI Line	10		100

Table 7-3 **Numbering Plan**

Flexible numbering

The pre-programmed parameters for the system numbering plan, and the features access codes, may have their numbers changed to fit their communication platform using the "HiPath 1100 Manager" on page 6-256 management software.

7.2 **Table of the System's Programming Codes**

Item	Programming	
1.	Main Configurations	page 7-268
2.	External line settings	page 7-270
3.	Programming an Extension	page 7-272
4.	DISA	page 7-278
5.	General settings	page 7-278
6.	Updating the Software	page 7-282
7.	Remote Administration	page 7-282
8.	Internal entrance telephone	page 7-283
9.	Call Detail Report Manager	page 7-283
10.	Fax/DID Feature	page 7-286
11.	EVM module	page 7-288
12.	Digital trunk settings	page 7-290
13.	LAN interface modules	page 7-292
14.	Relay and sensor on the HiPath 1120	page 7-293

Table 7-4 Classification of programming tables

For information on the programming of each feature see "Comments about the system's programming codes" on page 7-294

Configuring the system specifically for the client

Table of the System's Programming Codes

7.2.1 Main Configurations

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	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
Denied List	123	Class of Service: 1, 2 or 3 + List 1 - COS 1 - slots 01 to 10 List 2 - COS 2 - slots 01 to 25 List 3 - COS 3 - slots 01 to 35	Number (up to 16 digits)	5-second time-out	See Table 7-8 on page 7-278
Permission List	124	Class of Service: 4, 5 or 6 + List 1- COS 4 - slots 01 to 10 List 2 - COS 5 - slots 01 to 25 List 3 - COS 6 - slots 01 to 25	Number (up to 16 digits)	5-second time-out	

Configuring the system specifically for the client
Table of the System's Programming Codes

Programmed Functions	Code	Intermediate data	Data to Program	Completing data entry	Default
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 Table 7-16 on page 7-286	Automatic	01 - Brazil
COS changeover	178	extension	* - to enable # - to disable	# instead of extension	# - disabled
Carrier selection mode: LCR or ACS**	225		* - ACS # - LCR	Automatic	# - LCR
Warning Tone for Calls without LCR	092		* - To activate # - to deactivate	Automatic	# - to deactivate
To activate the time for LCR fall-back	250	Group of external lines	* - To activate # - to deactivate	# instead of extension	# - to deactivate
Time for LCR fall-back	251		05 to 30 seconds	Automatic	05 seconds

* 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 7-5 Main Configurations

Configuring the system specifically for the client

Table of the System's Programming Codes

7.2.2 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 - Standalone
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 (CLIP)	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 - Bidirectional
Flash Duration in 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 Argentina 4 seconds for Korea 06 seconds for the 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
Type of Answering Signal**	158	external analog line	0 - None 1 - Polarity Reversal 2 - DTMF Tone	# instead of external line	0 - None
Tone detector	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

Configuring the system specifically for the client
Table of the System's Programming Codes

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
Second external access code	134		0 to 9 or 00 to 99 or none (no code)	5-second timeout	0
Automatic Seizure of 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 field	226		(00000 to 99999)	Automatic	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

* 35/10 for Argentina 30/08 for Thailand, Malaysia and Singapore 18/10 for Portugal
9/9 for Spain, Australia, United Kingdom, Lithuania, Latvia and Italy 30/9 for India
27/9 for Greece, 8/8 for Russia, 10/10 for South Africa, 35/35 for Canada and Korea
27/60 for Turkey, 27/27 for France
24/10 for the other countries.

** Ask local carrier about availability.

Table 7-6 External line settings

Configuring the system specifically for the client

Table of the System's Programming Codes

7.2.3 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
Alert Ring Timeout for Pickup Groups	035		Time: 00 to 59 seconds or * - to disable	Automatic	* - to disable
Callback/Urgent Call activation by timeout	037		* - enables Callback and disables Urgent Call # - disables Callback 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)
Agent Status After Signaling Timeout.	176	UCD Subscriber Group	* - Available # - Unavailable	# instead of group	# - Unavailable

Configuring the system specifically for the client
Table of the System's Programming Codes

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
Cascade Call Forwarding partner	181		0 - Last 1 - First	automatic	0 - Last
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
Timeout within a Hunt Group (HG)	242	Hunt Group (HG)	(01 to 24) in 5-second cycles	Automatic	04
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
Call Identification 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 - Other countries 3 - Korea 5 - France FT
Hide group prefix	188	extension	* - to enable # - to disable	# instead of extension	# - to disable
Electronic Lock Password	126	extension	00000 to 99999 or * - reset	Automatic	00000
Timeout Call Forwarding - 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

Configuring the system specifically for the client

Table of the System's Programming Codes

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
Flash Detection Time	131	Extension	001 to 250 (in 10 ms cycles)	# instead of extension	035 - Portugal, Argentina and Thailand 036 - Korea; 028 - Other countries
Overflow 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: 1st - 11, 2nd - 12, etc. HiPath 1190: None
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		extension or * - 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 (telephone) 1 - Data (Fax/modem) 2 - Answering machine 3 - Music module 4 - External entrance telephone 5 - Voice Mail	# instead of extension	0 - Normal

Configuring the system specifically for the client
Table of the System's Programming Codes

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
Auto-Answering Mode	034	extension	* - to enable # - to disable	# instead of extension	# - to disable
Pulses for call charges on an 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
Activate/Deactivate timeout for external calls	239	extension	* - to enable # - to disable	Automatic	# - to disable
Timeout for external calls	240	extension	Timeout for external calls 00000 to 64800 in 5-second cycles	# instead of extension	00000
Day to begin timeout	241		(01 a 31) or * To deactivate	Automatic	* - deactivated
Answering timeout for a Second Attendant for calls received over MSN	082	Index: 001 to 140	(01 to 20) in 5-second cycles	Automatic	06 (30 seconds)
Modem extension	085	Extension		Automatic	None
MSN and extension assignment for external outgoing 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
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
Disconnect timeout after an external-to-external transfer	183		(004 to 120) in 5-second cycles	Automatic	60 (300 seconds)

Configuring the system specifically for the client

Table of the System's Programming Codes

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
Code for Disconnect Timeout after external-to-external Transfer	184		Code: 00 to 99	Automatic	00
Conditional forwarding limited by extension	097		Numbers from 01 to 50	Automatic	5 numbers
Permission for conditional forwarding	098	extension	* - to enable # - to disable	# instead of extension	# - to disable
Call Forwarding - Busy after Call Forwarding No Answer:	185	extension	* - to enable # - to disable	# instead of extension	# - to disable
Permission for conditional call forwarding	247	extension	* - to enable # - to disable	# instead of extension	* - To activate

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

Table 7-7 Programming an Extension

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

Configuring the system specifically for the client

Table of the System's Programming Codes

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
France	3010 3040 3611 0800 0810 0820 0825 083605		3 08 00 026 0269 0508 0590 0594 0596

Configuring the system specifically for the client

Table of the System's Programming Codes

Country	Permission List	Denied List
Korea		00 01 02 03 04 05 06 07 08

Table 7-8 Default settings for EWACO

7.2.4 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
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 7-9 DISA

7.2.5 General settings

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
Music on hold	136		0 - No music 1 - Intern – MIDI 2 - Intern- Wave 3 - External 4 - External – extension	Automatic	1 - Intern – MIDI
Assigning Extensions to MOH Groups	087	1 or 2 - MOH Group	extension or * - to delete	# instead of extension	None

Configuring the system specifically for the client
Table of the System's Programming Codes

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
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
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 - Default 2 - Factor 1 3 - Factor 2	# instead of extension	1 - Default
Call charge value by extension	197	extension	Value: 000000000 to 999999999 + Comma position: 0 to 3	Automatic	factor - 00001 slot - 0

Configuring the system specifically for the client

Table of the System's Programming Codes

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
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	Pass- word - 31994
Night service pass- word	149		00000 to 99999	Automatic	Pass- word - 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	Position: 1 to 5	Number (up to 10 digits)	5-second timeout	See Table 7- 11 on page 7- 281
Module detection	061	00 - Detect all modules or 01 to 20		# instead of slot position	00
Type of MSN Signal	073	Position: 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	Auto- matic mode
Assigning a tempo- rary 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 adminis- tration password through an MSN	220		a password of up to 5 digits, from 00000 to 99999	Automatic	None
Delete discon- nected consoles	166			Automatic	None

Configuring the system specifically for the client
Table of the System's Programming Codes

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
PABX Trace log	246		01 - Analog extensions 02 - External analog lines 03 - optiPoint extensions 04 - KS extensions 05 - ISDN telephones 06 - ISDN line 07 - Voice Mail 08 - CLIP/FDW 09 - External connections 10 - Sensor/Relay 11 - ISDN/CAS Layer 3 12 - ISDN Layers 1 and 2 13 - optiPoint Layers 1 and 2 * - delete current configuration	5-second timeout	None

**> For further details on how to set timers, refer to the Help file of the HiPath 1100 Manager administrative software. See the sections on timers.

Table 7-10 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
France	15 17 18 112 115	SAMU Police Fire Department Emergency
Korea		

Table 7-11 Lists of Emergency Numbers (040)

Configuring the system specifically for the client

Table of the System's Programming Codes

7.2.6 Updating the Software

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
SW Information	001	* - Displays the software release, version number, product name, APS, and serial number.		Press 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 of 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 7-12 Updating the Software

7.2.7 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
Activating remote administration	066		* - to enable # - to disable	Automatic	# - to disable
External number configuration	067	Position: 1 to 4	Number (up to 20 digits)	# instead of slot position	None
Remote administration password	068	Position: 1 to 4	00000 to 99999	# instead of slot position	None
Remote MSN	069		Position: 001 to 140 or * - to delete	Automatic	None

Configuring the system specifically for the client
Table of the System's Programming Codes

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 7-13 Remote administration

7.2.8 Internal entrance telephone

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
Configuring an internal entrance telephone	115	Position: 1 to 20	Extension or * - to delete	# instead of slot position	# - No
Door lock	116	Position: 1 to 20	* - to enable # - to disable	# instead of slot position	# - to disable
DIDs for entrance telephones	159	Position: 1 to 20 + 1 - Day service 2 - Night service	Extension 1 + * Extension 2 (up to 10 Extensions) or * - to delete	# instead of extension	Extension 11/101
Permission for opening door	125	Position: 1 to 20	Extension + * or * - to delete	# instead of extension	All extensions

Table 7-14 Internal entrance telephone

7.2.9 Call Detail Report Manager

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
Call detail report with a serial interface	006		* - to enable # - to disable	Automatic	# - to disable
Ticket cost code ticket	095		* - to enable # - to disable	Automatic	# - to disable

Configuring the system specifically for the client

Table of the System's Programming Codes

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
Data transmission rate	120		1 - 9600b 2 - 14400b 3 - 19200b 4 - 38400b 5 - 56000b 6 - 57600b 7 - 115200b 8 - 128000b 9 - 256000b	Automatic	3
Digit suppression in call detail reports	121		0 to 9 (suppress digits)	Automatic	0
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
Cost Code type	243		1 - Optional 2 - Mandatory	Automatic	1 - Optional
Cost code confirmation	244		* - 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 7-15 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	Columbia Uruguay Ecuador Central America Indonesia**	Spanish English

Configuring the system specifically for the client

Table of the System's Programming Codes

Code	Group	Country	Display language
09	IM English	Saudi Arabia Bahrain Egypt United Arab Emirates Ghana Yemen	English
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

Configuring the system specifically for the client

Table of the System's Programming Codes

Code	Group	Country	Display language
31	United Kingdom	United Kingdom	English
33	France	France	French
34	Korea	Korea	English

* For Bolivia and Paraguay, set "01=Brazil" for country/country group then "02=Spanish" for language.

** For Indonesia set "08=Intern. Spanish" for country/group of countries. then "03=English" for language.

Table 7-16 Country/Group of Countries (165)

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

Table 7-17 Analog CLIP Protocol (005)

7.2.10 Fax/DID Feature

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
Call answering menu	009	Select forwarding digit: 0 to 9 or *	Type extension number, group, relay on/off, remote configuration to be associated to the number or wait timeout to delete.	# instead of the forwarding digit	None

Configuring the system specifically for the client
Table of the System's Programming Codes

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
Message recording	137	9 - Record 0 - Play + Type of message: 01 to 12	Type of message: <u>Fax Mode:</u> 01 - Greeting for business hours (24 s) 02 - Greeting for night service (24 s) 03 - Transfer (16 s) <u>DID Mode:</u> 04 - Greeting for business hours (32 s) 05 - Greeting for night service (32 s) 06 - Transfer (16 s) <u>Fax/DID Mode:</u> 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	#	
Configuring the call answering mode	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 - Greeting (message)	* - to enable # - to disable	# instead of mode	# - to disable
MSN Answering for Fax/DID	080	Position: 001 to 140	0 - Deactivated 1 - FAX 2 - DID 3 - Fax/DID 4 - Message 5 - Autofax	# instead of slot position	00 - Deactivated
Fax Extension for MSN	081	Position: 001 to 140	extension	# instead of slot position	None
Fax/DID release after timeout	094		(00 to 99) in 5-second cycles	Automatic	06 (30 seconds)

Table 7-18 Fax/DID Feature

Configuring the system specifically for the client

Table of the System's Programming Codes

7.2.11 EVM module

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
Duration of greeting messages	200		(01 to 05 min) - Time for leaving a message	Automatic	2 minutes
Mailbox language	201		01 - German 02 - English 03 - French 04 - Dutch 05 - Italian 06 - Portuguese 07 - Spanish 08 - Czech 09 - Slovenian 10 - Polish 11 - Romanian 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)

Configuring the system specifically for the client
Table of the System's Programming Codes

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
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
Optional message for MSN	210	Position: 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 7-19 **EVM module**

Configuring the system specifically for the client

Table of the System's Programming Codes

7.2.12 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
Operation Mode for S ₀ Line [*]	190	01, 02, 03 or 11 + 00 to 01 (HiPath 1120 - 00 PP or PMP only) 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 PP or PMP only) 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 PP or PMP only) 00 to 04 (HiPath 1150) 00 to 04 (HiPath 1190)	* - to enable # - to disable	Automatic	Depending on the country
Notify	076	01, 02, 03 or 11 + 00 to 01 (HiPath 1120 - 00 PP or PMP only) 00 to 04 (HiPath 1150) 00 to 04 (HiPath 1190)	* - to enable # - to disable	Automatic	Depending on the country
Automatic Keypad	077		* - to enable # - to disable	Automatic	# - to disable
Assignment of a digital line to an MSN	078	Position: 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	Position: 001 to 140	DID final digits (up to 20 digits)	# instead of slot position	None
Assignment of an MSN to attendants	192	Position: 001 to 140 + 1 - Day service 2 - Night service 3 - Day service, second attendant 4 - Night service, second attendant	Extension, Call Group (CG, HG or UCD with up to 10 extensions per group) or EVM Virtual Port (744 to 747). * - to delete	# instead of extension	None

Configuring the system specifically for the client

Table of the System's Programming Codes

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
Busy signal**	004	Position: 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 Table 7-21 on page 7-292	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 PP only or PMP or PMP) 00 to 04 (HiPath 1150) 00 to 04 (HiPath 1190)	* - to enable # - to disable	Automatic	Depending on the country
ISDN Layer 2	102	01, 02, 03 or 11 + 00 to 01 (HiPath 1120 - 00 PP only or PMP or PMP) 00 to 04 (HiPath 1150) 00 to 04 (HiPath 1190)	* - to enable # - to disable	Automatic	Depending on the country
B channel	103	01, 02, 03 or 11 + 00 to 01 (HiPath 1120 - 00 PP or PMP only) 00 to 04 (HiPath 1150) 00 to 04 (HiPath 1190)	* - Master # - Slave	Automatic	Depending on the country
"No DIV.LEG info" for ISDN line	249	01, 02, 03 or 11 + 00 to 01 (HiPath 1120 - 00 PP or PMP only) 00 to 04 (HiPath 1150) 00 to 04 (HiPath 1190)	* - to enable # - to disable	Automatic	Depending on the country

* For E1 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 further details on how to install S₀ MOs see "System expansion limitations" on page 2-28.

Table 7-20 Digital trunk settings0

Country	CAC	Country	CAC
South Africa	27	Latvia	371
Argentina	54	Lithuania	370
Australia	61	Malaysia	60

Configuring the system specifically for the client

Table of the System's Programming Codes

Country	CAC	Country	CAC
Brazil	55	Mexico	52
Canada	1	Pakistan	92
Chile	56	Peru	51
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	France	33
Korea	82		

Table 7-21 CAC Code (012)

7.2.13 LAN interface modules

Programmed Functions	Code	Intermediate data	Data to be programmed	Completing data entry	Default
Default configuration of the LAN interface	013			Automatic	ADSL module: – IP 10.0.0.1 SLIMC, SDSLIM, LIMC or ADSLIM modules – IP of the modem: 192.168.254.254 – IP of the module: 192.168.254.253

Table 7-22 LAN interface modules

7.2.14 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
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		Position: 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 sensor	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 7-23 Relay and sensor on the HiPath 1120

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7.2.15 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.

7.3 Comments about the system's programming codes

7.3.1 Main Configurations

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 configures dialing "0" for each extension 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 group 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 along 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 there is no first attendant configured, the call is forwarded to the overflow extension. If 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 make alphanumeric searches (see Phonebook searches in the User Manual).

To insert an interdigit pause, enter the "P" character using the HiPath 1100 Manager or press the Redial key using a system telephone (see "Interdigit Pause Time Setting (227)" on page 7-315).

Numbers stored in the Speed dial phonebook can be retrieved 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, 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 "Restricted Trunk Access (with Denied List)" category.

- list 1 allows you to store 10 numbers
- list 2 allows you to store 25 numbers;
- list 3 allows you to store 35 numbers.



To change a blocked number, simply enter its list number and 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":

Configuring the system specifically for the client

Comments about the system's programming codes

- list 1 allows you to store 10 numbers;
- list 2 allows you to store 25 numbers;
- list 3 allows you to store 25 numbers.



To change an allowed number, simply enter its list number and 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** - For receiving internal and external calls and for making external calls to any number that is not included in the Denied List
- **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. It is therefore possible to allow or deny an extension to transfer its class of service temporarily to another telephone.

Language (164)

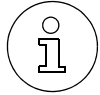
Defines the language for displaying messages on the system telephone display. This field is not automatically updated since it is based on the country option selected. When the Language field is changed the Country is not automatically changed. It is therefore possible to select a country with a different 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 cannot receive "Direct message to the speakerphone" and it cannot belong to any "Assigned 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.

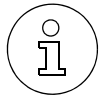


ACS does not affect emergency numbers (040) when the user dials directly.

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 placed 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.

To activate the time for LCR fallback (250)

This timer should be enabled for routes subject to delays of problems making call connections (for example, SIP Boxes). When the preset time has elapsed, the call is routed to the Default Carrier defined in that rule of the LCR (See Manager - A31003-K1270-M100-*, LCR).

Time for LCR fallback (251)

This configures the routing time to the Default Carrier defined in that rule of the LCR (See Manager - A31003-K1270-M100-*, LCR).

7.3.2 External line settings

Group of external Lines (156)

This allows you to configure the access to an external line or a group of external lines using either the access code "0" or another.

Configuring the system specifically for the client

Comments about the system's programming codes

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 may 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 - CLIP (005)

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

In the HiPath 1190 there is an upper limit of 16 lines configured with the CLIP DTMF option that causes limitations in the conference feature depending on the number of lines being used by the CLIP DTMF at any given time. This is caused by the fact that both the CLIP DTMF and the Conference use common resources in the system.

So, for example:

- In a system with 16 CLIP DTMF lines there can be 2 conferences with 3 participants;
- In a system with 8 CLIP DTMF lines there can be 1 conference with 8 participants or 2 conferences with 4 participants;
- In a system with no CLIP DTMF lines there can be 2 conferences with 8 participants.

To free additional ports for use with the Conference feature without depending on the use of the CLIP DTMF, this function should be disabled for certain 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.

Type of Answering Signal (158)

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

The following types of signal are possible:

- None
- Polarity reversal
- **DTMF Tone.**



When DTMF is selected, you must program a tone (A, B, C or D) using Manager. If a tone is not programmed using the Manager, the switch defaults to tone A.

Tone detector (160)

When it is enabled it runs two functions in an external analog line:

1. This setting has the system wait for a dial tone detection on the public exchange before making it available to send to the selected number. If there is no dial tone (for example, no line in installed) the system blocks the line automatically.
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 (1A dialing).
2. It detects the closure of an incoming call using the busy tone (busy tone detection) in the following cases:
 - External Call forwarding;
 - External transfer;
 - Incoming for DID/FAX;
 - Incoming for Answering machine;
 - Incoming for EVM module;

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- Incoming for VMI.

Connection type (133)

This setting determines whether the group of external lines that is connected to one of the HiPath 1100 systems is also inter-connected 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 Emergency numbers) or Emergency Numbers is enabled, the user will hear a False Tone regardless of what has been programmed.

Internal access code for Automatic seizure field (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 module1 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.

7.3.3 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)

Extensions can be grouped in Call Groups that are accessed by dialing numbers from 770 to 779. When the number is dialed, all telephones in the group ring until one of them is answered.



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.

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External call forwarding to a group member should not be used if "Call Deflection" (Code 228) is activated for that member (it 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 by 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 is only verified for the group.



If a call has been answered at least once by the system, collect call barring cancels the blocking.

If the call is forwarded due to Call Forwarding - No Answer over a digital line (*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)

This specifies 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)

This 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 each UCD Group. The default setting is for a message to be played 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 feature 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.

Agent status after signaling timeout (176).

Allows you to identify agent's status at the end of the signaling timeout.

By default, once the signaling timeout expires the call is transferred to a different group member and the agent becomes unavailable (see User Manual - Available/Unavailable Agent for a UCD Group).

Cascade Call Forwarding partner (181)

Cascade call forwarding allows you to choose how the call forwarding partner will be displayed on the telephone display. (See Programming Manual - A31003-K1270-U100-*, chapter on Cascade Call Forwarding partner)

In the following situation: Number 1 is set to forward to Number 2 and Number 2 is set to forward to Number 3. Here, the display can be configured as follows:

- Last partner: this will be shown on the caller display: "forwarded to: Number 3" and Number 3 will appear on the display: "from: Number 1".
- First partner: this will be shown on the caller display: "forwarded to: Number 2" and Number 3 will appear on the display: "from: Number 2".

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If Number 3 is a VMI:

- Last: the message is stored in Number 1's mailbox. If Number 1 does not have a mailbox, the Voice Mail must request the port for recording the message
- First: the message is stored in Number 2's Mailbox.

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 call extension. 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 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 rings 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 (it does not work for analog lines). In this case, the system does not receive any information about whether or not the forwarded call has been answered. 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.

Timeout within a Hunt Group (HG) (242)

This sets the length of time in which an external or internal call must be answered by a member of the group, and may be set for each group. If this times out before the group member answers, the call will ring consecutively to the other free extensions of the group.



The Hunt Group will not be forwarded or overflow if the call is not answered.

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. Note: 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. Note: 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.

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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. Note: 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.

Call Identification 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.



If the country set (code 165) is France, the CLIP FSK feature will only be available for the HiPath 1120 .

Hide Group Prefix (188)

This settings allows an extension to receive an external call over an external line belonging to a group of external lines, and to hide the group number so it does not show on the display. When a special access external call is transferred to an extension with this feature enabled, the external line number does not show on the display.

For example, an analog extension receives an external call over an external line that belongs to Group 890 - number 24987049. When this feature is enabled, the display show only 24987049. When this feature is disabled, the display shows 89024987049, that is, the number for the group of external lines followed by the external number.



To enable this feature, analog extensions must be configured for CLIP.

Electronic Lock Password (126)

It blocks the extension from making external calls allowing only internal calls or dialing a number directly from the Phonebook. A 5 digit password is used to configure this setting. Should the user forget the password used to block the extension, the password can be reset to the system's default (default password is 0000).

Timeout Call Forwarding - No Answer (130)

This setting specifies the time duration for external calls to ring at an extension before being transferred to a second attendant, if there is no answer (*14).

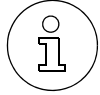
Dialing Mode (168)

This setting specifies the dialing mode to be used by each extension or whether the dialing mode should be detected automatically. 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. It is therefore recommended that you check the Flash detection time of MF telephones and adjust the settings to approximate them as much as possible.

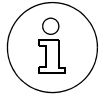
The configurations for detection of Flash may vary from country to country.



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 a number previously programmed into the Phonebook automatically 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

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HiPath 1120	HiPath 1150
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 7-24 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.

If the call is forwarded due to Call Forwarding - No Answer over a digital line (*14) and collect call barring is activated, the call will ring at the first DID for the external line.



Please ask your local carrier about enabling blocking on digital lines.

Type of Equipment Connected to an Extension (003)

This setting specifies the type of equipment that is connected to extension slot A/B or S₀.

- **Normal** (system telephone, ISDN or analog telephone)
- **Data (Fax/modem)**
- **Answering machine**
- Music
- External entrance telephone
- Voice Mail

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The **Data (Fax/Modem)** option uses the same dial tones and call sequence as the public network to avoid problems in detecting pauses, internal dial tones and/or duplicate calls. In addition, the override and call waiting functions are blocked in order to prevent transmission faults.



When connecting a fax device, no additional settings (such as Fax Detection) need to be configured.

The **Answering machine** option requires the same configuration as in "Data (Fax/Modem)". However, you can answer calls if Auto-Answering is activated.

The **External entrance telephone** option supports up to 4 devices connected directly to analog ports A/B or in the bar of the S₀ module, as follows:

- The external analog entrance telephone device must behave like an analog telephone (dialing, detection and DTMF control)
- The ISDN external entrance telephone device must behave like an ISDN telephone. It must also be controlled by DTMF signals.



Consult the external entrance telephone manual to check available settings. Go to the HiPath 1100 Manager folder - Advanced/System Settings/General - "External entrance telephone" and insert the information on the entrance telephone device for correct working.

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).

Pulses for call charges on an analog extension (041)

This sends pulses to be charged for calls on an analog extension (12kHz/16kHz). With this feature, an extension's telephone set can display the number of pulses or the amount charged for the call.



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.

Configuring the system specifically for the client

Comments about the system's programming codes

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.

Activate/Deactivate timeout for external calls (239)

Activate/Deactivate the timeout for external calls.

Timeout for external calls (240)

This defines a time limit for making external calls on each extension. In other words, when the total time of the external calls made reaches the time limit set for calls underway, these calls will be interrupted and no further calls may be made until more time "credit" is awarded.



Calls may also be interrupted if the extension has been configured with these features:

- "Timer for outgoing external call" (Code 047) - the limit also stops counting.
- "Billing" - the call will only be started or can continue if the time and credit limit have not been reached.

For simultaneous calls, call times will be counted separately.

If the call ends before a cycle is complete, the time will be counted as if the call had completed a 5-second cycle.

"Call Deflection" is not supported by this feature.

Timeout limit day (241)

This allows the user to define a day of the month on which the timeout for external calls on all extensions will begin.

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)

This 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 in the background on 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 Call Forwarding - No Answer (130)" on page 7-306 feature or the HiPath 1100 Manager.

Elapsed timeout for external-to-external connection (218)

This allows you to configure 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. The 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)

This makes it possible to configure 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).

Disconnect timeout after and external-to-external transfer (183)

With this option you can specify a period of time for disconnecting an external call. This option applies when at least one external line is an analog line and the call is transferred (Code 091) or forwarded (*11) to an external destination by an authorized extension.

Code for a disconnect timeout after and external-to-external transfer (184)

This option allows you to set a code to restart the timeout period for disconnecting an external call. This applies when at least one external line is an analog line, and after a call has been transferred (Code 091) or forwarded (*11) to an external destination by an authorized extension.

Once the call is transferred and answered at the destination, a disconnect timer is activated (default is 5 minutes). A 20-second warning tone is sent to both parties before the call is disconnected. In order to continue the call without disconnecting, the destination number must enter this code (MF, default "00") to restart the timeout.,

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 digital.

Configuring the system specifically for the client

Comments about the system's programming codes



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
- Type of answering signal (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 required for configuring a list:

- Incoming caller ID
- Day of the week and time
- Type of call (internal or external).

When more than one number has 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 is not available for S₀ extensions.

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.

Call Forwarding - Busy after Call Forwarding No Answer (185)

When this feature is activated, an extension configured for Call Forwarding - No Answer (see Call Forwarding - No Answer, in the User Manual) routes incoming calls to the same destination configured for Call Forwarding - Busy.



Urgent Call and Callback when Busy facilities do not work when Call Forwarding - Busy and Call Forwarding - No Answer are activated.

If the extension called is configured to use Do Not Disturb and Call Forwarding - Busy then the call will be forwarded. If Do Not Disturb is enabled at the destination to which the call is forwarded, the caller will hear a busy signal.

Permission for conditional call forwarding (247)

This allows an extension to forward a call to an external line.

7.3.3.1 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 ("Call Identification for analog extension (CLIP)" on page 7-273).

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 an MSN number for the Waiting Message server.

7.3.4 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.

Configuring the system specifically for the client

Comments about the system's programming codes

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 if available.



When a 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.

7.3.5 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)

It 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, enter the "P" character using the HiPath 1100 Manager or press 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 "P" specifies that the next digits for A will only be forwarded if:

- 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 created and will display the time as 12:00.

Configuring the system specifically for the client

Comments about the system's programming codes

Automatic date/time 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 schedule a Callback for the MSN number called.



A callback can only be scheduled for an 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 transmitted to the public exchange, over the line, that displays call charge information according to the type of line (external or ISDN), call type (local, DDD, International, etc.) and other parameters specified 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 Cost Limit by Extension (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.



On HiPath 1100 systems, the Billing facility (Call cost limit by extension) is only available for digital trunks (ISDN and CAS). Please consult your local carrier to know if this service is provided.

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 of 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 sensor (177)

When an alarm is activated, the HiPath 1120 dials the number on entry 249 of the Phonebook. The numbers are dialed and the sequence of digits, in DTMF format, is repeated every 5 seconds after the connection is established. The purpose of this sequence of digits is to identify the alarm source. An alarm center, for example, is able to identify which PABX is sending the tone. 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
- Absent external line
- An external line configured to accept only incoming calls

Configuring the system specifically for the client

Comments about the system's programming codes

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 "Detect all slots" option 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 a numbering sequence for analog lines/extensions has been previously configured it will be changed when an S0 module or a TME1 module is added.

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. Inserting an S0 module produces the following configuration:

- 801 to 805 for the 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 is now 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 an 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 "Caller ID/Number" is selected in Code 039.

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.



To activate this feature, the feature "Without MSN Verification" (code 070) should be enabled.

Delete disconnected consoles (166)

This programming code should be used in case the warning message "NBR. MAX. MAX. KEY DIAL EXCED" is shown on the display when connecting a console (optiPoint key module or optiPoint BLF) to an optiPoint 500 telephone set or activating a virtual keypad on the system telephone (KS).



If this code is used, all the programmed keys of the disconnected consoles will be lost.

PABX Trace log (246)

This tool is used to monitor events that have occurred in the PABX over a certain time period. This code makes it possible to configure the profiles to be monitored via the trace.

The trace can be started/ended using the HiPath 1100 Manager or the feature codes (see User Manual).

The default setting is trace not configured.

7.3.6 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 and the CommServer and the APS Version Verifier must be 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.

Configuring the system specifically for the client

Comments about the system's programming codes

Activating a SW Update (055)

This feature allows you to update the system's software automatically on 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 of SW update (057)

This setting specifies regular intervals in months for transferring data.

During 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 when the data downloaded will be uploaded to the system's memory.

During the upload (approximately 3 minutes) the telephone operates as usual.

The default setting specifies the time for the update process at 00:00 hours.

7.3.7 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 via 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 an 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 an 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 an 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) in the programming extension to transfer control of the HiPath 1100 to the remote programmer. The remote programmer must then enter the system password using an MF telephone.
To execute the required programming, proceed as if the remote telephone were connected directly to the system.
- **If a Fax/DID module is available:**
Enter the code (* 95) using the remote MF telephone after answering the call. The remote programmer must then enter the system password using an MF telephone.
To execute the required programming, proceed as if the remote telephone were 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 using a standard MF telephone.

Configuring the system specifically for the client

Comments about the system's programming codes

7.3.8 Internal entrance telephone

Configuring an internal entrance telephone (115)

This function enables the system to use an entrance telephone. You can connect up to 20 entrance telephones in extension slots. Each entrance telephone must be individually activated in the system.



1. By default no slot is set as an entrance telephone.
2. Only one entrance telephone may be connected to each module of the TFE interface.
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 in a given slot in the internal entrance telephone.

DIDs for entrance telephones (159)

It specifies the extensions that will be called during day or night service when the entrance telephone is activated.

The default setting is extension 11/101.

Permissions for the door opener (125)

If there is a locking device installed in given slots in the internal entrance telephone, permission will be required for opening the door in the required slots.

This class of service is assigned to all extensions by default.

7.3.9 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:

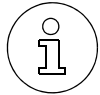
- By using a PC or printer connected through a serial interface.
- By using a PC connected on a local network.

The tickets list can be viewed on a **Billing Application** installed in the PC or through Windows' **Hyper Terminal**.

- For the Windows' **Hyper Terminal**, HiPath 1100 makes available a local control of ticket purchasing at any time through a series of commands that can be programmed into the application interface with the central.

Interface commands:

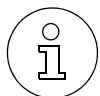
Command	Description
\nticket_start\n	This command will be sent by the user (Application) to the PABX, requesting that the stored tickets start being sent.
\nticket_stop\n	This command will be sent by the user (Application) to the PABX, requesting that the stored tickets stop being sent.



After receiving and accepting those commands, new tickets or tickets that are still stored will not be transmitted to the PABX.

Interface answers:

Command	Description
\nend of tickets\n	This answer will be sent by the PABX to the Application interface when no stored tickets are left to be transmitted. This command can be used as an indicator to end command "\nticket_start\n" when all stored tickets have been sent.
\nprint_stopped\n	This answer will be sent by the PABX to the Application interface after receiving command "\nticket_stop\n" to inform the user that the connection with the application can be closed without losing the tickets.



To set up and use the Billing Application, please refer to the appropriate product manual.

- For Windows Hyper Terminal, the following setting is required:
 - 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) or SLIMC, SADSLIM, LIMC or ADSLIM modules (the default is 192.168.254.253) and the port (9366).

Configuring the system specifically for the client

Comments about the system's programming codes

- 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.
- To establish 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 (Ring)**
- **Call duration (Duration)**

Configuring the system specifically for the client

Comments about the system's programming codes

- **Dialed number (Number)**
The system allows you to configure a feature that ensuring confidentiality of the number dialed at the time the CDR record is issued. This replaces the numbers by 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	Call fees	Acc. code
22.11.99	14:00:00	01	21		00:14	00:01:34	2222222	1		

Table 7-25 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.



In the event of a power outage during ticketing, all tickets that were being sent when the power outage occurred are re-sent when a connection is re-established.

Example:

1. If 300 tickets are stored in the memory, the user establishes a new connection, sends 100 tickets and terminates the connection.
2. Then the user establishes new connection to send the remaining 200 tickets, but a power outage occurs.
3. After the power outage, once the user resumes his/her work, a new connection is established. During this connection all 200 tickets that were being sent when the power outage occurred are re-sent.

Call Detail Report with a Serial Interface (006)

This setting specifies that the Call Detail Report will be done through a serial interface.

Configuring the system specifically for the client

Comments about the system's programming codes



CommServer does not work when this setting is enabled.

Ticket Cost Code Ticket (095)

External calls can be assigned Cost Codes which provide more control over telephony costs. This information may be presented on the billing ticket. This Cost Code is defined by the user and is made up of a sequence of up to 10 random digits (0...9) which could be, for example, the number of a legal process (see Functions Used During a Call - Cost Code, in the User Manual).

If Cost Codes have not been configured in advance using the HiPath 1100 Manager (See Cost Codes - A31003-K1270-M100-*), only ten-digit cost codes will be accepted in analog and S₀ telephones. Otherwise, the call will not be completed.

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. These digits will be replaced by "?."

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.
The 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.

Cost Code type (243)

Inputting the Cost Code when making an external call can be "mandatory" or "optional", depending on the way the code is configured.

- **Optional** - There is no need to type in the Cost Code at the start of the call in order to complete the call. However, it can be typed in during the call if you are using a system telephone.

- **Mandatory** - The Cost Code must be typed in at the start of the call or it cannot be completed.

Cost Code confirmation (244)

When Cost Code confirmation is enabled, only Cost Codes that have been configured previously may be used (Cost Codes must be set using HiPath 1100 Manager). If an invalid Cost Code is typed in, a negative tone will sound or a message will be displayed.

If confirmation is disabled, any Cost Code may be used.

7.3.10 Fax/DID Feature

This provides automatic answering of an external call in addition to message playback and fax signal detection. The 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 an 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 time has elapsed, 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 a greeting or message, press "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.

Configuring the system specifically for the client

Comments about the system's programming codes

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 for 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)

When a fax signal is detected, 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:

- For an external analog line, the switch is required to bypass the Fax/DID module and forward calls to an analog line attendant (if there is no attendant available, 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 minutes for Brazil), the call will be disconnected by the local carrier before the PABX can forward it to an attendant.
- For digital lines (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 be considered one of the eight calls that is being answered by the Fax/DID module keeping it busy. In sum, once the Fax/DID module has forwarded a call to an extension, the channel is available for another call.

7.3.11 EVM module

EVM (Entry Voice Mail) is a Voice Mail solution for HiPath 1100 systems. Its features are controlled through the 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.



When a call to an extension is forwarded to an EVM mailbox (Call forwarding - No answer or Busy) a message is played, explaining why the call is being forwarded.

These messages are played before the greeting message and cannot be overwritten.

Messages:

- **Call Forwarding - Busy after Call Forwarding - No Answer:** "The line you are calling is busy".
- **Call Forwarding - No Answer:** "The user you are calling is not answering."

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 virtual EVM ports.

Configuring the system specifically for the client

Comments about the system's programming codes

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 greeting for a mailbox (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)
 - Greeting 2 (Night).

Message Source (208)

This setting assigns a message to one of the two EVM ports. Alternatively, the message can be assigned to an 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)

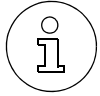
This setting specifies how an MSN configuration must be sent.

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.



If only one extension is selected as the first attendant, only one voice mail group may be selected as a second MSN attendant, (See HiPath 1100 Manager).

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.

7.3.12 Digital trunk settings

The HiPath 1100 systems can be equipped with digital trunks by means of an S₀ module (ISDN/ISDN access) and a TME1 (E1 CAS 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 can be equipped with one TME1 module (configured for up to 15 standard channels or 20 expanded channels) and the HiPath 1190 with two TME1 channels.

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.

S2 access:

It provides connections to the ISDN network via primary access (30 Channels), allowing services offered by the network to be used. The HiPath 1150 can be equipped with one TME1 module (configured for up to 30 channels) and the HiPath 1190 with two TME1 modules (the first configured for up to 30 channels and the second 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 or 210 expansion modules are disabled. Nonetheless, the extensions will continue to work as usual. Lines are disabled in the order that they are physically installed (1, 2, and so on). This process continues until the total number equals the required number of trunks. 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 being deactivated. The 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 Table 2-3 on page 2-31:

S₀ module:

Each ISDN access provides two communication channels (64 kbps 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 a 5-port module and the HiPath 1190 with two 2- or 5-port modules.

Configuring the system specifically for the client

Comments about the system's programming codes

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 feature allows you to assign different MSN numbers for each S_0 interface. The number of S_0 interfaces varies according to 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 an 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 further 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 further 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->Regional 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 S_0 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 S_0 Bus line (see "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 an S_0 Bus line, the connection will automatically revert to PP (which is the default).

Extension only: Each port will decrease the number of extension slots by 1. The connection must be a S_0 Bus line. If it has been previously configured as PP or PMP, the connection will automatically revert to S_0 Bus line.



After completing the configuration, the system must be restarted.

S₀ line operation mode (190)

This setting specifies the type of connection, either Point-to-Point, Point-to-Multipoint, or S₀ Bus) between the S₀ module and the local carrier's lines.



With the HiPath 1120, the S₀ module's first port can only be a trunk, PP or PMP. It cannot be programmed as an S₀ bus.

With other switches, the first port may also be configured as an S₀ Bus.

Symmetric/Asymmetric Call (074)

This setting configures the system for symmetric or asymmetric calls.

Check with your local carrier to find out which operating mode should be configured for your system.

No ACK Setup for S₀ line (075)

Check with your local carrier to find out which operating mode should be configured for your system.

Notify (076)

Check with your local carrier to find out 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.

Assignment of a digital line to an 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, call groups or a mailbox using a virtual EVM port (see Mailboxes assignments (203)) designated for answering calls during a specified period of time.

An extension, Group or EVM virtual port cannot be assigned more than once. A distinctive tone on the handset indicates an invalid entry.

Configuring the system specifically for the client

Comments about the system's programming codes

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)

This allows you to change certain default ISDN settings for specified countries.

ISDN Layer 2(102)

Allows you to change certain default ISDN settings for specified countries.

B channel (103)

Allows you to change some default ISDN settings for specified countries.

"No DIV.LEG info" for ISDN line (249)

If this option is disabled and a local carrier provides the "Diversion" service for ISDN lines, the extension forwarding the external calls to an external line can show the original numbers of the participants to the calling parties.

Otherwise, only the number of the MSN/Attendant of the PABX will be made available.

In the default configuration, this option is enabled for the following countries: Australia, Greece and the Netherlands.



This feature only works in ISDN lines in PP or PMP mode and only with T-Reference Point.

7.3.13 LAN interface modules

These provide a LAN Ethernet interface via their RJ45 connectors that allow direct PC connections to HiPath 1100 within the network and if you have an ADSL modem available, they can share ADSL access, dispensing with the need for an external ADSL modem or HUB.

The HiPath 1100 can interact via the LAN network with the applications used in your administration, such as: HiPath 1100 Manager, Interaction Center Smart, billing applications, and so on.

Default Configuration of the LAN interface (013)

This code restores the default configuration of the LAN interface modules.

ADSL module

- Default IP of the module: 10.0.0.1
- Default Subnet Mask of the module: 255.255.255.0

SLIMC, SADS LIM, LIMC or ADSLIM modules

- Default IP of the modem: 192.168.254.254
- Default IP of the module: 192.168.254.253
- Default Subnet Mask of the module: 255.255.255.0
- Default gateway of the module: 192.168.254.254

7.3.14 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, alarms, and so on.

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:

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.



The name assigned to this position may have up to 15 characters.

Configuring the system specifically for the client

Comments about the system's programming codes

Configuring the sensor function (170)

Allows you to select a function for the sensor:

- Deactivating the sensor 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 basic 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 in minutes, after which a new attempt is made to call an internal or external number, if the extension was busy.

MSN assignment for the sensor (051)

This setting specifies an MSN for the system, to be used for outgoing calls. With this MSN, the called party is able to identify the origin of the call, for example an alarm call.

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, and vice-versa.

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)

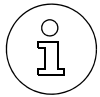
This setting specifies the operating mode for the relay:

- "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 the Relay is selected at an extension.
- "Music on Hold" The Relay can be used for activating external equipment connected for playing messages/music.
- "External signal" It is possible to use the Relay to control a second ring for an extension slot.

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 deactivated manually.

External ring for activating the relay (071)

This setting allows you to 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.

Configuring the system specifically for the client

Comments about the system's programming codes

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.





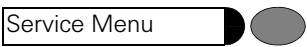
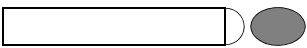
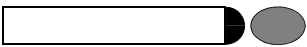
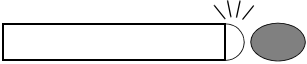

8.1 Numbering Plan

Description	HiPath 1120	HiPath 1150	HiPath 1190
External line	801 to 808	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		
UCD 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
Substitution for the * e # key	75 and 76 respectively		

Feature access codes

Symbols



8.2 Symbols


























Symbols	Explanation
	Enter numbers, keys, password, internal or external numbers, etc.
	Signaling with a short beep
	Lift/Replace the handset
	Initiate conversation
	Service Menu
	Programmable key is ON
	Programmable key deleted
	Blinking Programmable Key
	Navigation keys

8.3 Features

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**
































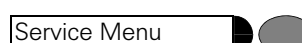























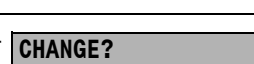














Feature	Code
System telephone functions	
Mailbox access	 keyprogrammed as MWI
Call charge consultation	

Feature	Code
Call Forwarding	Call Forwarding 
Call Forwarding Deactivation	Call Forwarding 
Parking	Parking  0 to 9 position
Parking Resuming a Call	Parking  0 to 9 position
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 using a group of external lines	 8 9 0 ...  8 9 9  external line
Seizure of a Specific external Line	 8 0 1 ...  8 4 5  external line

Feature access codes

Features




















Feature	Code
Internet Access Activation	external line
Internet Access Deactivation	external line
External line reservation Busy	<p>1°) Wait for The telephone rings. </p> <p> external line </p> <p>or</p> <p>2) <input type="text" value="Service Menu"/> </p> <p>The telephone rings. external </p>
Functions used when making calls	
System Speed Dial	+ ...
Individual speed dialing	+ ...
Individual Speed Dialing Programming	+ ... <input type="text" value="CHANGE?"/> <input checked="" type="checkbox"/> number <input type="text" value="SAVE?"/> wait for
Speakerphone Auto-Answering Mode Activation	wait for
Speakerphone Auto-Answering Mode Deactivation	wait for
Direct communication call	extension with system telephone wait for speak the message
Internal call	extension
Calling a Call Group (CG)	...

Feature	Code
Calling a Hunt Group (HG)	    ...   
UCD Subscriber Group	    ...   
Urgent Call Extension busy	1°)   (currently busy) Wait for   or 2°)   (currently busy)      
Hotline (if programmed)	 
Warmline (If programmed)	 Wait for 
Override Busy extension	 busy extension      
LCR Bypass	    +  Carrier + number 
View time limitations	   
Silent Monitoring (busy extension)	      busy extension 
Callback Activation (Extension does not answer or is busy)	1)  no answer   or      Wait for. The telephone rings  or 2) Wait for   Wait. The telephone rings 
Callback Deactivation	   

Feature access codes

Features

Feature	Code
Carrier	9
Using a temporary MSN to make a call	*41 MSN slot or MSN number external line external number
Functions used during calls	
Cost Code	*60 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 *56 + 0...9
Recovering a parked call	#56 + 0...9
General Parking	General Parking
Recovering a parked external call	*63 + line
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

Feature	Code
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 a transfer call without consultation to be answered)	Internal:   extension  External:    TRANSFER?   number ()
Functions used when receiving calls	
Mailbox access	 Voice mail group
Answering a call on hold	Service Menu   * 5 5 or  Service Menu   * 2  or CALL WTNG? <input checked="" type="checkbox"/>
Group pickup	* 5 7 or CALL PCKP GRP? <input checked="" type="checkbox"/>
Individual pickup	* 5 9  extension
Call forwarding on an analog line:	
Call Forwarding to external Number	* 1 1  external line <input checked="" type="checkbox"/>
Internal call forwarding	* 1 1  extension, Voice mail group, Group Group or Fax/DID <input checked="" type="checkbox"/>
Call forwarding Deactivating	# 1 1

Feature access codes

Features











Feature	Code
Call forward no answer or busy Activating	1 ^{ghi} 4 extension, Voice mail group, Call group or external line <input checked="" type="checkbox"/>
Call forward no answer or busy Deactivation	1 ^{ghi} 4
Do Not Disturb Activation	^{wxyz} 9 ^{pqrs} 7
Do Not Disturb Deactivation	^{wxyz} 9 ^{pqrs} 7
EVM:	
Consultation at the extension being used	^{pqrs} 7 ^{wxyz} 9 0 VM group password
Consultation from a different extension	^{pqrs} 7 ^{wxyz} 9 0 VM group password extension
Consultation from an external extension	its external number + password extension
Miscellaneous Functions	
Entrance telephone Door Opener	Service Menu ^{mno} 6 1 or Service Menu ^{mno} 6 1 extension
General Alarm Deactivating	^{wxyz} 9 ^{ghi} 4 1 ^{ghi} 4 password
Electronic lock password change	^{wxyz} 9 ^{def} 3 current password new password confirm new password
Electronic Lock Activation	^{mno} 6 ^{mno} 6 password

Feature	Code
Electronic Lock Deactivation	password
Busy signal when extension is busy Activation	
Busy signal when extension is busy Deactivation	
System Programming Mode Activation	password codes:
Deactivating a Feature (Call forwarding, Do not disturb, Data Data protection, Alarm clock, Call-back and Speakerphone Auto-Answering Mode)	
Language/Country configuration	country code:
Call Group (CG) and Hunt Group (HG) Login	group (if the extension belongs to more than one group)
Call Group (CG) and Hunt Group (HG) Logout	group (if the extension belongs to more than one group)
Room Monitor (Babyphone)	
Music on Hold Activation	Music
Music on Hold Deactivation	
Remote configuration HiPath 1100 Manager	

Feature access codes

Features










Feature	Code
Remote configuration using a standard MF telephone	<p>1) local programming extension is talking to remote programmer: Remote programmer must provide: password programming codes or 2) Remote programmer dials the system and is attended by the Fax/DID feature: password Programming codes</p>
Data protection Activation	
Data protection Deactivation	
Relay Activation (For HiPath 1120 only)	
Relay Deactivation (For HiPath 1120 only)	
Night service Activation	password
Night service Deactivation	password
Call Waiting tone - Activation	
Call Waiting tone - Deactivation	
COS (Class of Service) Changeover	extension password
PABX Trace log Starts	

Feature	Code
PABX Trace log Stops	 1 ^{pqrs} 7 ^{pqrs} 7
Extended PABX Trace log to enable	* 1 ^{pqrs} 7 ^{tuvw} 8
Extended PABX Trace log to disable	 1 ^{pqrs} 7 ^{tuvw} 8
Alarm Clock	
Alarm Clock (Daily)	* ^{ghi} 4 ^{mno} 6 1  time (for example 1230) <input checked="" type="checkbox"/>
Alarm Clock (Daily, except weekends)	* ^{ghi} 4 ^{mno} 6 ^{abc} 2  time (for example 1230) <input checked="" type="checkbox"/>
Alarm Clock (After a specified time)	* ^{ghi} 4 ^{mno} 6 ^{def} 3  time (e.g. 1230) <input checked="" type="checkbox"/>
Alarm Clock (For a specified date and time)	* ^{ghi} 4 ^{mno} 6 ^{ghi} 4  date/time (for example 24121830) <input checked="" type="checkbox"/>
Alarm clock Deactivating	 ^{ghi} 4 ^{mno} 6 <input checked="" type="checkbox"/>
UCD Subscriber group functions	
Agent available	* ^{ghi} 4 0 ^{abc} 2
Agent unavailable	 ^{ghi} 4 0 ^{abc} 2
UCD Subscriber Group	^{pqrs} 7 ^{wxyz} 9 0 ... ^{pqrs} 7 ^{wxyz} 9 ^{wxyz} 9
Logging into a UCD Subscriber group	* ^{ghi} 4 0 1  group: (If it belongs to more than one)
Logging off a UCD Subscriber Group	 ^{ghi} 4 0 1
UCD Agent in Service	* ^{ghi} 4 0 ^{def} 3

Feature access codes

Features

Feature	Code
UCD Agent out of service	^{ghi} 4 ^{def} 0 ^{def} 3
Show queue size to UCD agent	^{ghi} 4 ^{jkl} 0 ^{jkl} 5
Satellite PABX	
Flash on external Analog Line	Service Menu ^{jkl} 5 ^{jkl} 1
Operation as Satellite PABX	^{tuv} 8 ^{wxyz} 9 ⁰ 0 ... ^{tuv} 8 ^{wxyz} 9 ^{wxyz} 9 number of the line
Special Functions for ISDN Lines	
Immediate Call Forwarding for MSN Activation	^{mno} 6 ^{ghi} 4 ¹ 1 external line MSN
Immediate Call Forwarding for MSN Deactivation	^{mno} 6 ^{ghi} 4 ¹ 1
Call Forwarding - No Answer, for MSN Activating	^{mno} 6 ^{ghi} 4 ^{abc} 2 external line MSN
Call Forwarding - No Answer, for MSN Deactivation	^{mno} 6 ^{ghi} 4 ^{abc} 2
Call Forwarding for MSN when the line is busy Activation	^{mno} 6 ^{ghi} 4 ^{def} 3 external line MSN
Call Forwarding - Busy, for MSN Ofactivation	^{mno} 6 ^{ghi} 4 ^{def} 3
Anonymous caller ID (Trace)	Service Menu ^{tuv} 8 ^{ghi} 4
Sending Restriction for MSN - Activation	^{tuv} 8 ^{mno} 6

Feature	Code
Sending Restriction for MSN - Deactivation	  
Using Features provided by a Carrier on ISDN Lines	     external line  ISDN code



Note:

- For Korea the numbering plan changes as follows:
 - a) Access to the group of external lines is done with digit "9" instead of "0"
 - b) Calling an operator terminal is done with digit "0" instead of "9"
 - a) Group call pickup is done with sequence "*0" instead of "*57"
 - a) Recovery of a parked call is done with sequence "*57" instead of "*0";
- 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.

Table 9-1 Abbreviations

Abbreviation	Meaning
ACD	Automatic Call Distribution
ACS	Alternative Carrier Selection
ADSL	Asymmetric Digital Subscriber Line
ARG	Argentina
BRA	Brazil
CAPI	Common ISDN Application Program Interface
CAS	Channel-Associated Signaling
CD	Carrier Detect
CHN	China
CLIP	Calling Line Identification Presentation
CND	Canada
COS	Class of Access (Class of Service)
CTI	Computer Telephony Integration
CTS	Clear To Send
DID	Direct Inward Dialing
DISA	Direct Inward System Access
DP	Dial pulse telephone
DSR	Data Send Ready
DTMF	Dual Tone Multiple Frequency
DTR	Data Terminal Ready
E1	Primary Access
EB	Expansion Board
ESD	Electrostatic Discharge
ETSI	European Telecommunications Standard Institute
EWAKO	External Toll Restriction / Denied Numbers and Permission Lists
GND	Ground
HKZ	Main Station Interface / Analog Trunk
IM	International Market

Table 9-1 Abbreviations

Abbreviation	Meaning
IND	India
ISDN	Integrated Services Digital Networks
LAN	Local Area Network
MB	Basic Module
MDF	Main Distribution Frame
MF	Analog Multifrequency telephone
MO	Optional Module
MOH	Music on Hold
MSN	Multiple Subscriber Number
NT	Network Terminator
PABX	Private Automatic Branch Exchange
PC	Personal Computer
PEN	Protection Conductor plus Neuter conductor
PMP	Point Multipoint Connection
PP	Point to Point Connection
PSU	Power supply unit
RSA	Republic of South Africa
RTC	Real time clock
RTS	Request To Send
RUF	Ring
RxD	Receive Data
S ₀	Basic Access
SPA	Spain
SW	Software
TAPI	Telephony Applications Programming Interface
TFE	Türfernsprecher (Entrance Telephone)
TN-C-S	Power supply systems with Phase, Neuter (grounded) and Ground
TN-S	Power supply systems with Phase, Neuter (grounded)
TxD	Transmit Data
UCD	Universal Call Distribution
USB	Universak Serial Bus
VMle	Extended voice mail interface

Abbreviations

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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.

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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.

