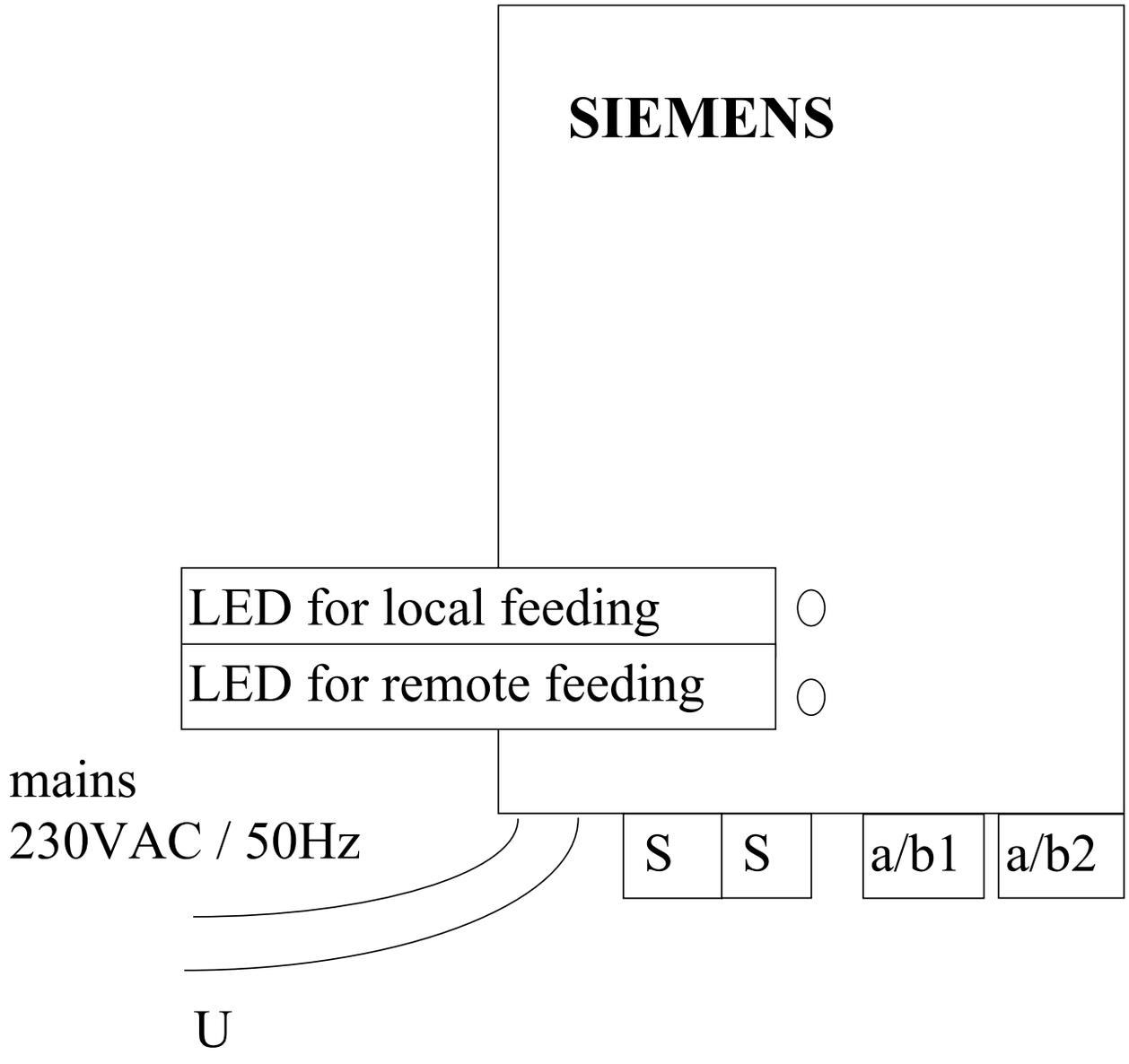
SIEMENS

User Manual for SANTIS-ab

Subscriber Access and
Network Termination for ISDN Services


SIEMENS
LED for local feeding
LED for remote feeding
mains
230VAC / 50Hz
S
S
a/b1
a/b2
U

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1. Safety Instructions

- Place the SANTIS-ab near a 230 V outlet.

- Do not open the case.

- Clean the case only with dry or moist cloth.
  Never immerse into water.

- If the SANTIS-ab is damaged, inform immediately your network provider.

2. Operating Modes

The connection to the public telephone network as well as the selection of one of the following **three operating modes** must be done by an authorized person, e.g. telecom staff:

1. **NT+2ab** S- and a/b-interfaces available
2. **NTBA** Only S-interface available
3. **Pairgain** Only a/b-interfaces available

3. Installation

- If both the green LEDs light steadily, the SANTIS-ab is ready for operation (see figure on page 2).
  The following installation-steps can be done by everyone.

- The SANTIS-ab can be wall-mounted or placed on the desk (piling of more units is also possible). In case of wall mounting, drill the holes into the wall according to the enclosed drawing, insert dowels with wood screws and hang on the SANTIS-ab.

- Connection of the terminal equipments:
  The sockets for the analog equipments (e.g. telephones, gr.2/3 fax machines, modems) are designated with «a/b1» and «a/b2», those for the ISDN terminal equipments with «S» (e.g. ISDN-telephones, PC with ISDN-card, gr.4 fax machines). See figure on page 2.

4. Configuration

- There are only parameters for the a/b-interfaces. Thus there is only a need for a configuration, if the a/b-interfaces are available (**NT+2ab** mode and **Pairgain** mode; see chapter 2). The configuration remains stored, even after a power failure.

- The configuration is done by means of an analog telephone set equipped with tone dialing, having both ∗ and # keys.

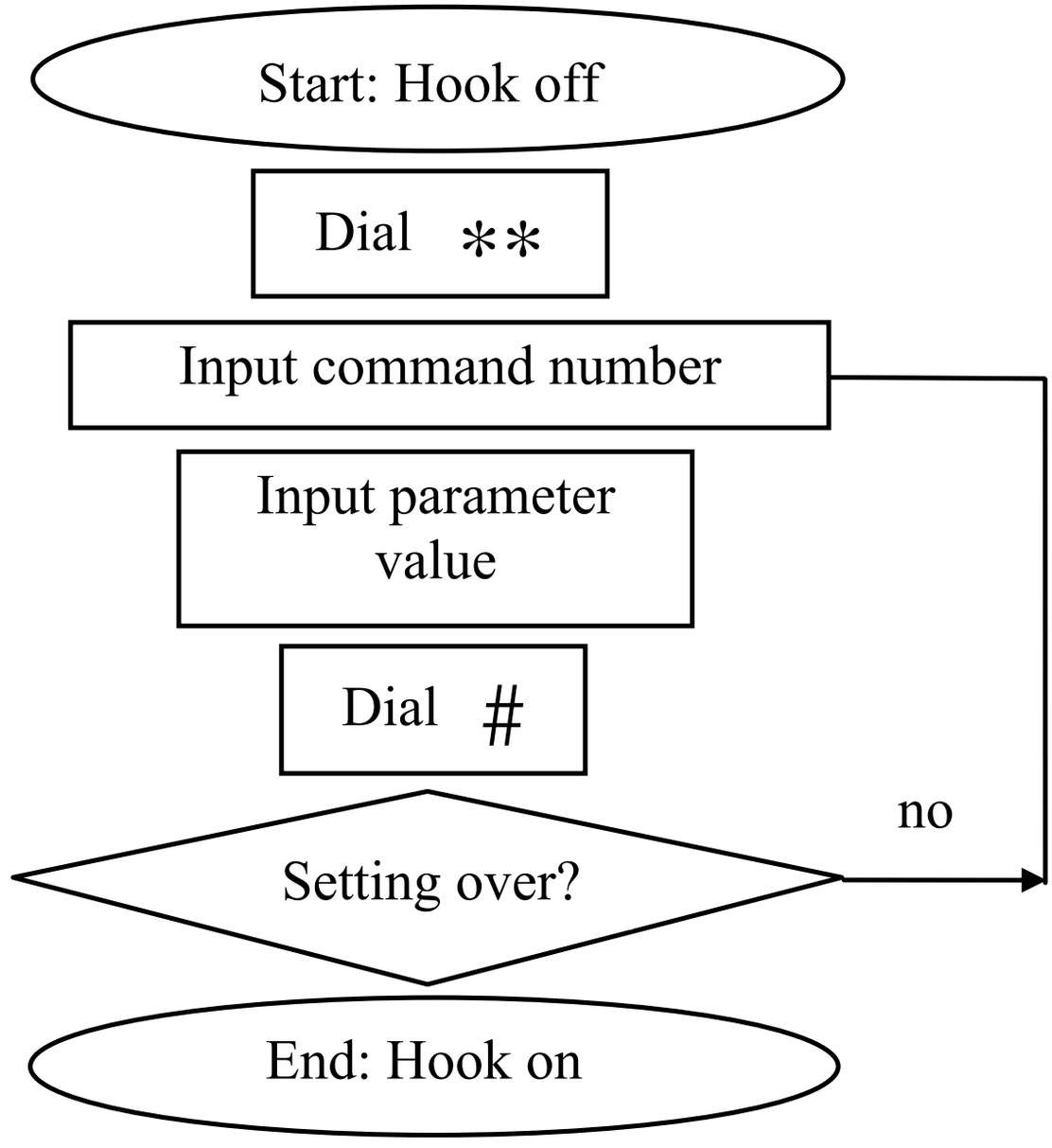
  Remark:
  In normal use SANTIS-ab recognizes both pulse and tone dialing.
- If the **NT+2ab** mode is selected, all the configuration commands can be set from both the a/b-interfaces without any restrictions.

If the configuration access (CA) is restricted (can be set and changed by authorized persons, e.g. telecom staff), the configuration for the a/b1-interface can only be done via the a/b1-interface and vice versa for the a/b2-interface.
This mode is called **NT+2ab/CA restr.**

If the **Pairgain** mode is selected, the configuration access is automatically restricted, i.e. the configuration for the a/b1-interface can only be done via the a/b1-interface and vice versa for the a/b2-interface.

The settings are executed as follows. See also flow chart on next page.

1. Hook off and wait for dial tone
2. Dial ∗∗ → The dial tone is switched off
3. Dial the command number and parameter value according to the tables in chapter 5.
4. Dial # → If the parameter has been programmed successfully, a permanent tone is switched on. Otherwise a busy tone will be switched on.
5. Proceed with step 3. if necessary for setting other parameters or hook on.


Start: Hook off
Dial **
Input command number
Input parameter value
Dial #
Setting over?
no
End: Hook on

5. Table of Configuration Commands

Parameter-Reset			
Command-No / Meaning		Parameter value	Default
010	reset of all parameters to the default value	1	---

All parameters having a default value are affected.

The default values are set in the factory and can be reseted by this command.

Restrictions for **NT+2ab/CA restr.** and **Pairgain:**
A parameter reset via the a/b1-interface affects only a/b1-parameters and vice versa for a/b2. The MSNs can not be reseted.

Multiple Subscriber Number (MSN)			
Command-No / Meaning		Parameter value	Default
111	1st MSN for a/b1	0 to 16 digits	--- *)
121	2nd MSN for a/b1	0 to 16 digits	0000 0000
131	3rd MSN for a/b1	0 to 16 digits	0000 0000
112	1st MSN for a/b2	0 to 16 digits	--- *)
122	2nd MSN for a/b2	0 to 16 digits	0000 0000
132	3rd MSN for a/b2	0 to 16 digits	0000 0000

*) No digits for 1st MSN means, that no MSN is programmed.

MSN means '**M**ultiple **S**ubscriber **N**umber' and is one of your ISDN-phone-numbers.

Restrictions for **NT+2ab/CA restr.** and **Pairgain:**
The MSNs can only be set by authorized persons.

Hot Line			
Command-No / Meaning		Parameter value	Default
181	hot line number for a/b1-interface	0-16 digits	---
182	hot line number for a/b2-interface	0-16 digits	---
191	hot line switch for a/b1-interface	0 = hot line off 1 = hot line on	0
192	hot line switch for a/b2-interface	0 = hot line off 1 = hot line on	0

Hot line means that a predefined number is dialed automatically after hook off (e.g. baby-call, alarm-call). In order to switch the hot line off, hook off and start immediately to dial the off-command.

Restrictions for **NT+2ab/CA restr.** and **Pairgain:**
a/b1 via a/b1 only; a/b2 via a/b2 only.

Emergency Mode Priority Switch			
Command-No / Meaning		Parameter value	Default
210	emergency mode priority	0 = S-interface 1 = a/b-interface *)	0

*) First hooked off, first served

Emergency mode means failure of the mains. Then only one terminal equipment can be operated at either the S- or one of both the a/b-interfaces. The preferred interface can be selected by this command.
If set to ‘1’, the emergency priority of all the S-bus terminal equipments must be disabled.

Restrictions:
The switch is only available in the **NT+2ab** mode.
NT+2ab/CA restr.: Can only be set by authorized persons.
Pairgain: Automatically set to ‘1’ and can not be changed.

Type of Terminal Selection (HLC)			
Command-No / Meaning		Parameter value	Default
221	type of terminal equipment at a/b1-interface (HLC)	0 = audio 1 = telephony 2 = fax gr.2/3 3 = modem(audio)	0
222	type of terminal equipment at a/b2-interface (HLC)	0 = audio 1 = telephony 2 = fax gr.2/3 3 = modem(audio)	0

In order to have all the benefits of an ISDN the SANTIS-ab should know the type of terminal equipment connected to both the a/b-interfaces.

Restrictions for **NT+2ab/CA restr.** and **Pairgain:**
a/b1 via a/b1 only; a/b2 via a/b2 only.

Clear Back Time Delay Switch			
Command-No / Meaning		Parameter value	Default
311	clear back time delay at a/b1-interface	0 = immediate 1 = 3 minutes	1
312	clear back time delay at a/b2-interface	0 = immediate 1 = 3 minutes	1

If you answer a phone call, you can hook on and the connection is still available, if you hook off again within
3 minutes (the caller must not hook on). This feature is called ‘clear back time delay’ and can be suppressed by this command.

Restrictions for **NT+2ab/CA restr.** and **Pairgain:**
a/b1 via a/b1 only; a/b2 via a/b2 only.

PABX-Switch			
Command-No / Meaning		Parameter value	Default
320	address selection	0 = standard 1 = PABX	0

If both the a/b-interfaces are connected to a PABX, this parameter should be set to ‘1’.

Restrictions:
NT+2ab/CA restr.: Can only be set by authorized persons.
Pairgain: Automatically set to ‘1’ and can not be changed.

Metering Pulse Switch			
Command-No / Meaning		Parameter value	Default
331	Metering pulses at a/b1-interface	0 = off 1 = on	1
332	Metering pulses at a/b2-interface	0 = off 1 = on	1

Some terminal equipments (e.g. modems) do not work correctly, if metering pulses are sent. Thus it is possible to switch them off.

Restrictions for **NT+2ab/CA restr.** and **Pairgain:**
a/b1 via a/b1 only; a/b2 via a/b2 only.

Call Waiting Tone Switch			
Command-No / Meaning		Parameter value	Default
341	call waiting tone at a/b1-interface	0 = off 1 = on	1
342	call waiting tone at a/b2-interface	0 = off 1 = on	1

The call waiting tone is a tone in the receiver signaling an incoming call during a call is already ongoing. **This service is not available at every network provider.**
The incoming call can be answered by finishing the ongoing call (hook on, SANTIS-ab rings, hook off).
The call waiting tone can be switched off, e.g. if a fax machine or a modem is connected to the a/b-interfaces.

Restrictions for **NT+2ab/CA restr.** and **Pairgain:**
a/b1 via a/b1 only; a/b2 via a/b2 only.

Metering Calculation			
Command-No / Meaning		Parameter value	Default
380	amount for one metering pulse	1 to 8 digits	country specific
390	currency factor	1 to 8 digits	country specific

Example for US$:
1 pulse = **10** cents, thus dial

** 380 10 #

1 US$ = **100** cents, thus dial

** 390 100 #

Restrictions for **NT+2ab/CA restr.** and **Pairgain:**
Can only be set by authorized persons.

Calling Line Identification Restriction (CLIR) Switch			
Command-No / Meaning		Parameter value	Default
411	CLIR at a/b1-interface	0 = ident. restr. 1 = ident. allowed	1
412	CLIR at a/b2-interface	0 = ident. restr. 1 = ident. allowed	1

In the ISDN world the number of the caller is submitted to the called party.
CLIR means '**C**alling **L**ine **I**dentification **R**estriction', i.e. the caller number is not submitted.
Additionally the CLIR-service must be activated in the central office by your network provider.

Restrictions for **NT+2ab/CA restr.** and **Pairgain:**
a/b1 via a/b1 only; a/b2 via a/b2 only.

Configuration Example 1:

Priorising a/b-interfaces during emergency mode

1. Hook off and wait for dial tone, then dial
2. ∗∗ → the dial tone is switched off

   210 1 #
3. When a permanent tone is switched on, hook on.

Configuration Example 2:

A fax machine gr.3 is connected to the a/b1-interface.
Thus the MSN and HLC are to be set:
MSN = 456, HLC = fax gr.2/3 for a/b1.

1. Hook off and wait for dial tone, then dial
2. ∗∗ → the dial tone is switched off

   111 456 # → 1st MSN for a/b1
3. When the permanent tone is switched on proceed to 4 and dial
4. 221 2 # → HLC for a/b1
5. When the permanent tone is switched on, hook on.

Remarks:

- There is a time limitation for the programming. If one sequence is not finished within 30 seconds, an internal generated busy tone will be switched on.

- Check if the programming was successful with test calls between two a/b-interfaces or from an ISDN-telephone set to an analog one and vice versa.

6. Troubleshooting

1. Check the green LEDs on the top of the case: both must light steadily.
   - If the LED designated with ‘local feeding’ is off, check the power cord.
   - If the LED designated with ‘remote feeding’ is off and remains off for some minutes, inform your network provider.

2. Check the correct connection of the terminal equipments to the SANTIS-ab. Analog equipments must be connected to a/b1 and a/b2, digital equipments to S.

7. Pin Allocations of the Sockets

Interface	Pins
a/b1, a/b2	4 & 5
S receive	3 & 6
S transmit	4 & 5

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