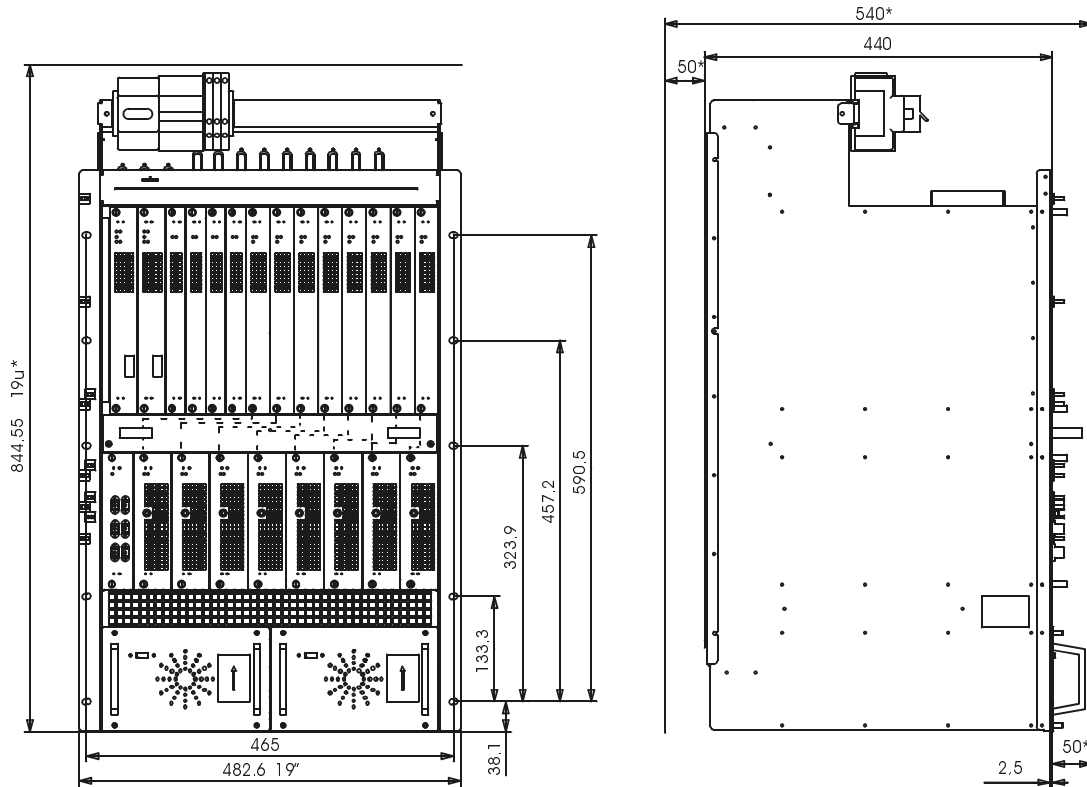
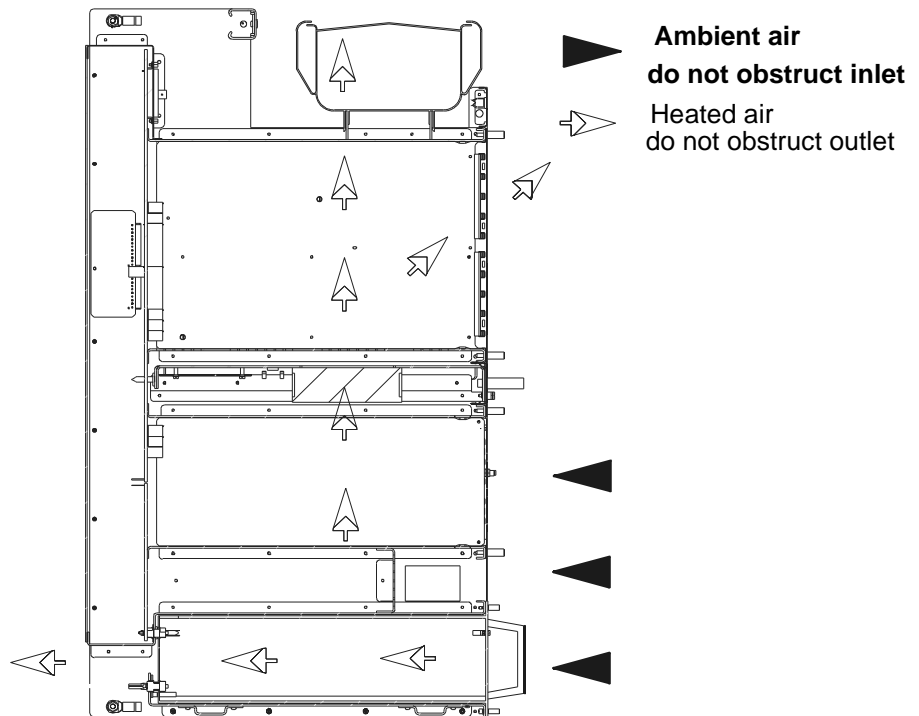


### 3.5.1 Mechanical installation



**Figure 38 – Chassis dimensions and clearances (dimensions in mm)**

- Respect the requested clearances for the wiring, in order to avoid damage to the connectors (marked with an\*).



**Figure 39 – Ventilation of the DBS chassis (cross-section)**

- The installation of rack (optional) and chassis must enable the ventilation shown *Figure 39 – Ventilation of the DBS chassis (cross-section)*. Do not obstruct the air inlets and outlets.


### Stages

1. Choose the location where the equipment is to be assembled and unpack the standard rack. If its top cover is fitted, remove it (quarter-turn screw).

**Note:** place the rack in such a way that the cable connections are accessible before the rack is installed definitively.

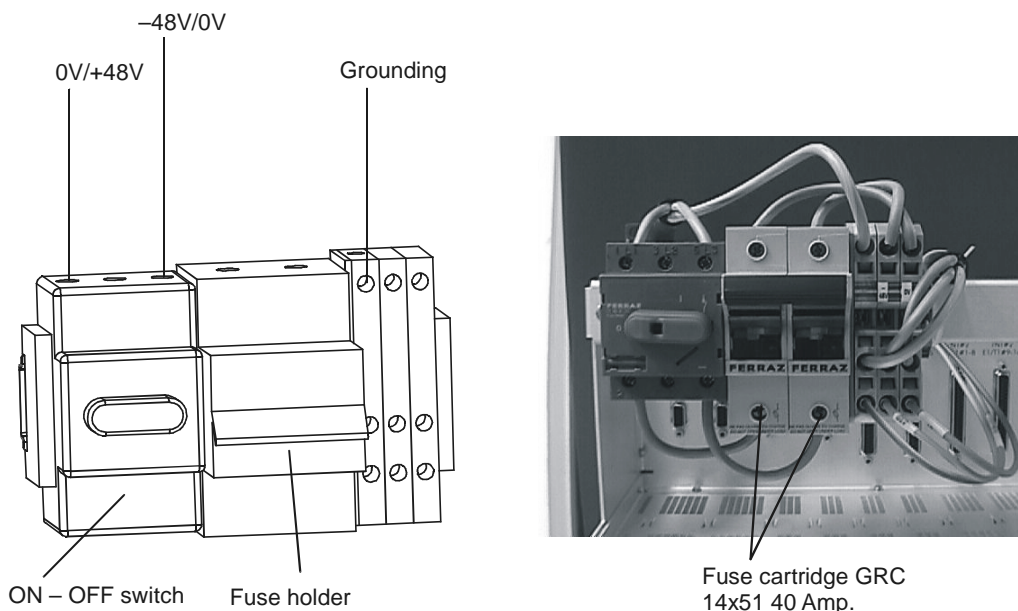
2. Unpack the DBS chassis assembly and install it inside the rack. Fix and screw into place.
3. Unpack the DC/DC PSUs; install and plug them in the DBS chassis.
4. Carry out the electrical connection, cf. § 3.5.2 *Electrical connection*.
5. Carry out the client terminal connections, cf. § 3.5.3 *Customer access connections (circuits interfaces)* and 3.5.4 *Client access connections (ATM network interface)*.
6. Connect the RBS/DBS connection cable(s) cf. § 3.5.5 *RBS/DBS Connection*.

### 3.5.2 Electrical connection

	<b>WHEN MAKING THE POWER CONNECTIONS, TURN OFF ALL DBS CHASSIS EXTERNAL POWER SOURCES.</b>
---	--

#### Considerations

- The DBS chassis is supplied from the rated DC voltage of 48V (minimum 35V, maximum 60V).
- The cable connecting the external DC power source to the DBS sub-rack will have a minimum cross-section of 3x10 mm<sup>2</sup> and a maximum length of 20 meters.
- The rack must be grounded to the general grounding system. For this, the rack mechanism will be connected by a cable with a minimum cross-section of 16 mm<sup>2</sup>, attached using a 6 mm bolt.
- For the power supply block diagram, refer to *Figure 40 – DBS chassis power supply*:




**Figure 40 – DBS chassis power supply**

**Note:** The user must connect +48V or -48V to ground.

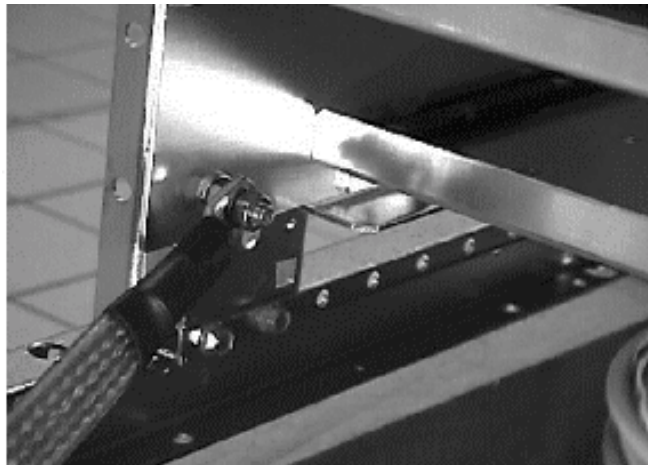
**Stages** (Figure 42 – DBS sub-rack power connection)

1. Connect the switch at the top of the DBS sub-rack to the external DC power source. You are recommended to pass the power supply cable via the top of the rack.

	<b>ATTENTION: DO NOT CONNECT THE GROUNDING CABLE TO THE SWITCH BUT TO THE YELLOW/GREEN TERMINAL BLOCK.</b>
---	--

2. Ground the DBS sub-rack.

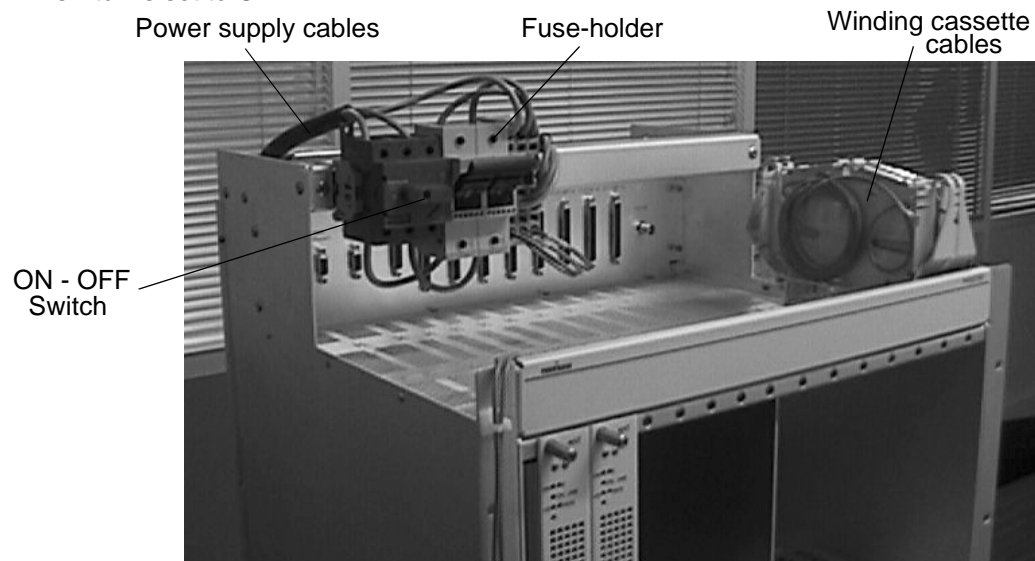
**Note:** a ground strip is fixed to the backplane and ensures its grounding. The rack and subrack ground are screwed together, thus no special grounding is required for the rack.



**Figure 41 – DBS sub-rack ground connection**

**Earthing must be done very carefully in order to assure good operation of the DBS.**

3. Make sure that the fuses are inserted in the fuse-holder. Before changing fuse, make sure that the switch is set to OFF.



**Figure 42 – DBS sub-rack power connection**

### 3.5.3 Customer access connections (circuits interfaces)

#### Considerations

This connection involves the use of:

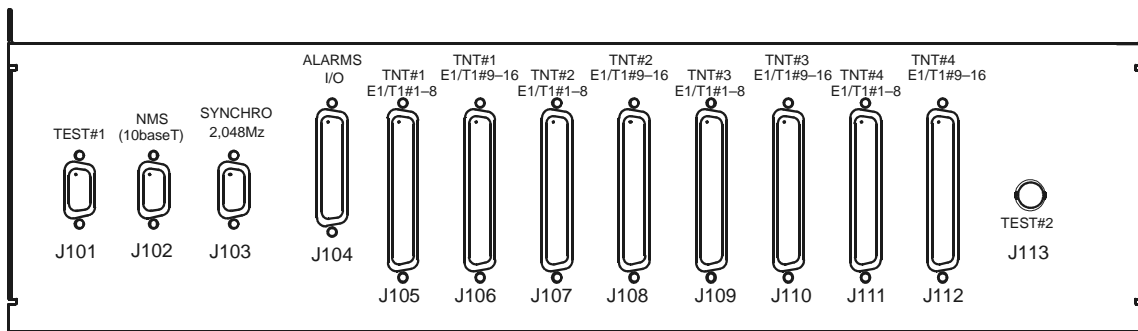
- either direct **connectors** TNT1 to TNT4, (corresponding to TNT board plug into the chassis) at the top of the DBS sub-rack, if no distribution frames (cf. § 3.5.3.1 *Direct connections to the connectors of the top panel of the DBS chassis.*);
- or the optional **distribution frames** at the top of the DBS sub-rack in the standard rack (coaxial cables for the 75 ohm links, balanced pair cables for the 120 ohm links cf. § 3.5.3.2 *Connections to 75 ohm coaxial distributors* and § 3.5.3.3 *Connections to 120 ohm distributors*).

**Note:** the provided equipment is already connected and parts of the installation kit.



#### 3.5.3.1 Direct connections to the connectors of the top panel of the DBS chassis.

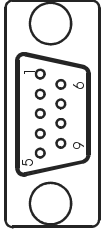
**Note:** All connectors are female connectors.



**Figure 43 – Top panel DBS connections: connectors location**

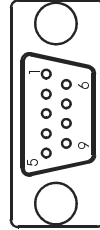


**CONNECTOR TEST#1 J101**



- Pin 01: SDA\_Fdp
- Pin 02: ground
- Pin 03: ground
- Pin 04: PC\_RS232\_Rx\_1
- Pin 05: PC\_RS232\_Rx\_0
- Pin 06: SCL\_Fdp
- Pin 07: ground
- Pin 08: PC\_RS232\_Tx\_1
- Pin 09: PC\_RS232\_Tx\_0

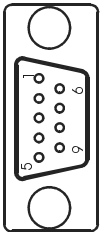
**CONNECTOR NMS J102**



- Pin 01: not connected
- Pin 02: ground
- Pin 03: ground
- Pin 04: ground
- Pin 05: not connected
- Pin 06: 10BT\_RxD\_M
- Pin 07: 10BT\_RxD\_P
- Pin 08: 10BT\_TxD\_M
- Pin 09: 10BT\_TxD\_P

**CONNECTOR SYNCHRO J103**

Clock signals have no polarity  
—> P and M not significant



- Pin 01: Clk\_2M\_Out\_P (do not connect)
- Pin 02: ground
- Pin 03: ground
- Pin 04: ground
- Pin 05: Clk\_2M\_In\_M (clock input)
- Pin 06: Clk\_2M\_Out\_M (do not connect)
- Pin 07: ground
- Pin 08: ground
- Pin 09: Clk\_2M\_In\_P (clock input)

**CONNECTOR J113**

**DO NOT CONNECT**

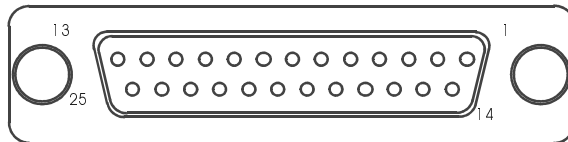


**TEST#2  
J113**

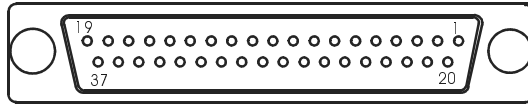
	<p><b>Do not connect pins 01 and 06</b> <b>(clock output: 75 ohms load, 06 connected to ground)</b></p>
--	---

*Figure 44 – DBS connections, assignment of access points (1)*

## Connector Alarms J104



Pin 01: I_AL_0	Remote signaling input 1	
Pin 02: I_AL_2	Remote signaling input 3	
Pin 03: I_AL_4	Remote signaling input 5	
Pin 04: I_AL_6	Remote signaling input 7	
Pin 05: ground		
Pin 06: ground		
Pin 07: ATT_B	ATTENDED alarm relay idle	} Red "UG" and "NUG" LEDs (not managed in NR 2.2)
Pin 08: NURG_B	NON-URGENT alarm relay idle	
Pin 09: URG_B	URGENT alarm relay idle	
Pin 10: CMD_4_B	Remote control # 4 idle	
Pin 11: CMD_3_B	Remote control # 3 idle	
Pin 12: CMD_2_B	Remote control # 2 idle	
Pin 13: CMD_1_B	Remote control # 1 idle	
Pin 14: I_AL_1	Remote signaling input 2	
Pin 15: I_AL_3	Remote signaling input 4	
Pin 16: I_AL_5	Remote signaling input 6	
Pin 17: I_AL_7	Remote signaling input 8	
Pin 18: Ground		
Pin 19: ATT_A	ATTENDED alarm common relay	} Red "UG" and "NUG" LEDs (not managed in NR 2.2)
Pin 20: NURG_A	NON-URGENT alarm common relay	
Pin 21: URG_A	URGENT alarm common relay	
Pin 22: CMD_4_A	Common remote control # 4	
Pin 23: CMD_3_A	Common remote control # 3	
Pin 24: CMD_2_A	Common remote control # 2	
Pin 25: CMD_1_A	Common remote control # 1	



**TNT#1  
E1/T1#1-8  
J105**

- Pin 01: ground
- Pin 02: Input\_1\_P\_1
- Pin 03: Input\_2\_P\_1
- Pin 04: Input\_3\_P\_1
- Pin 05: Input\_4\_P\_1
- Pin 06: Input\_5\_P\_1
- Pin 07: Input\_6\_P\_1
- Pin 08: Input\_7\_P\_1
- Pin 09: Input\_8\_P\_1
- Pin 10: ground
- Pin 11: ground
- Pin 12: Output\_1\_P\_1
- Pin 13: Output\_2\_P\_1
- Pin 14: Output\_3\_P\_1
- Pin 15: Output\_4\_P\_1
- Pin 16: Output\_5\_P\_1
- Pin 17: Output\_6\_P\_1
- Pin 18: Output\_7\_P\_1
- Pin 19: Output\_8\_P\_1
- Pin 20: ground
- Pin 21: Input\_1\_M\_1
- Pin 22: Input\_2\_M\_1
- Pin 23: Input\_3\_M\_1
- Pin 24: Input\_4\_M\_1
- Pin 25: Input\_5\_M\_1
- Pin 26: Input\_6\_M\_1
- Pin 27: Input\_7\_M\_1
- Pin 28: Input\_8\_M\_1
- Pin 29: ground
- Pin 30: Output\_1\_M\_1
- Pin 31: Output\_2\_M\_1
- Pin 32: Output\_3\_M\_1
- Pin 33: Output\_4\_M\_1
- Pin 34: Output\_5\_M\_1
- Pin 35: Output\_6\_M\_1
- Pin 36: Output\_7\_M\_1
- Pin 37: Output\_8\_M\_1

**TNT#1  
E1/T1#9-16  
J106**

- ground
- Input\_9\_P\_2
- Input\_10\_P\_2
- Input\_11\_P\_2
- Input\_12\_P\_2
- Input\_13\_P\_2
- Input\_14\_P\_2
- Input\_15\_P\_2
- Input\_16\_P\_2
- ground
- ground
- Output\_9\_P\_2
- Output\_10\_P\_2
- Output\_11\_P\_2
- Output\_12\_P\_2
- Output\_13\_P\_2
- Output\_14\_P\_2
- Output\_15\_P\_2
- Output\_16\_P\_2
- ground
- Input\_9\_M\_2
- Input\_10\_M\_2
- Input\_11\_M\_2
- Input\_12\_M\_2
- Input\_13\_M\_2
- input\_14\_M\_2
- Input\_15\_M\_2
- Input\_16\_M\_2
- ground
- Output\_9\_M\_2
- Output\_10\_M\_2
- Output\_11\_M\_2
- Output\_12\_M\_2
- Output\_13\_M\_2
- Output\_14\_M\_2
- Output\_15\_M\_2
- Output\_16\_M\_2

**TNT#2  
E1/T1#1-8  
J107**

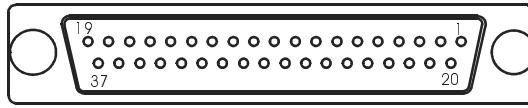
- ground
- Input\_1\_P\_3
- Input\_2\_P\_3
- Input\_3\_P\_3
- Input\_4\_P\_3
- Input\_5\_P\_3
- Input\_6\_P\_3
- Input\_7\_P\_3
- Input\_8\_P\_3
- ground
- ground
- Output\_1\_P\_3
- Output\_2\_P\_3
- Output\_3\_P\_3
- Output\_4\_P\_3
- Output\_5\_P\_3
- Output\_6\_P\_3
- Output\_7\_P\_3
- Output\_8\_P\_3
- ground
- Input\_1\_M\_3
- Input\_2\_M\_3
- Input\_3\_M\_3
- Input\_4\_M\_3
- Input\_5\_M\_3
- input\_6\_M\_3
- Input\_7\_M\_3
- Input\_8\_M\_3
- ground
- Output\_1\_M\_3
- Output\_2\_M\_3
- Output\_3\_M\_3
- Output\_4\_M\_3
- Output\_5\_M\_3
- Output\_6\_M\_3
- Output\_7\_M\_3
- Output\_8\_M\_3

**TNT#2  
E1/T1#9-16  
J108**

- ground
- Input\_9\_P\_4
- Input\_10\_P\_4
- Input\_11\_P\_4
- Input\_12\_P\_4
- Input\_13\_P\_4
- Input\_14\_P\_4
- Input\_15\_P\_4
- Input\_16\_P\_4
- ground
- ground
- Output\_9\_P\_4
- Output\_10\_P\_4
- Output\_11\_P\_4
- Output\_12\_P\_4
- Output\_13\_P\_4
- Output\_14\_P\_4
- Output\_15\_P\_4
- Output\_16\_P\_4
- ground
- Input\_9\_M\_4
- Input\_10\_M\_4
- Input\_11\_M\_4
- Input\_12\_M\_4
- Input\_13\_M\_4
- input\_14\_M\_4
- Input\_15\_M\_4
- Input\_16\_M\_4
- ground
- Output\_9\_M\_4
- Output\_10\_M\_4
- Output\_11\_M\_4
- Output\_12\_M\_4
- Output\_13\_M\_4
- Output\_14\_M\_4
- Output\_15\_M\_4
- Output\_16\_M\_4

P = + / M = -

*Figure 45 – DBS connections, assignment of access points (2)*



**TNT#3  
E1/T1#1-8  
J109**

Pin 01: ground  
 Pin 02: Input\_1\_P\_5  
 Pin 03: Input\_2\_P\_5  
 Pin 04: Input\_3\_P\_5  
 Pin 05: Input\_4\_P\_5  
 Pin 06: Input\_5\_P\_5  
 Pin 07: Input\_6\_P\_5  
 Pin 08: Input\_7\_P\_5  
 Pin 09: Input\_8\_P\_5  
 Pin 10: ground  
 Pin 11: ground  
 Pin 12: Output\_1\_P\_5  
 Pin 13: Output\_2\_P\_5  
 Pin 14: Output\_3\_P\_5  
 Pin 15: Output\_4\_P\_5  
 Pin 16: Output\_5\_P\_5  
 Pin 17: Output\_6\_P\_5  
 Pin 18: Output\_7\_P\_5  
 Pin 19: Output\_8\_P\_5  
 Pin 20: ground  
 Pin 21: Input\_1\_M\_5  
 Pin 22: Input\_2\_M\_5  
 Pin 23: Input\_3\_M\_5  
 Pin 24: Input\_4\_M\_5  
 Pin 25: Input\_5\_M\_5  
 Pin 26: Input\_6\_M\_5  
 Pin 27: Input\_7\_M\_5  
 Pin 28: Input\_8\_M\_5  
 Pin 29: ground  
 Pin 30: Output\_1\_M\_5  
 Pin 31: Output\_2\_M\_5  
 Pin 32: Output\_3\_M\_5  
 Pin 33: Output\_4\_M\_5  
 Pin 34: Output\_5\_M\_5  
 Pin 35: Output\_6\_M\_5  
 Pin 36: Output\_7\_M\_5  
 Pin 37: Output\_8\_M\_5

**TNT#3  
E1/T1#9-16  
J110**

ground  
 Input\_9\_P\_6  
 Input\_10\_P\_6  
 Input\_11\_P\_6  
 Input\_12\_P\_6  
 Input\_13\_P\_6  
 Input\_14\_P\_6  
 Input\_15\_P\_6  
 Input\_16\_P\_6  
 ground  
 ground  
 Output\_9\_P\_6  
 Output\_10\_P\_6  
 Output\_11\_P\_6  
 Output\_12\_P\_6  
 Output\_13\_P\_6  
 Output\_14\_P\_6  
 Output\_15\_P\_6  
 Output\_16\_P\_6  
 ground  
 Input\_9\_M\_6  
 Input\_10\_M\_6  
 Input\_11\_M\_6  
 Input\_12\_M\_6  
 Input\_13\_M\_6  
 input\_14\_M\_6  
 Input\_15\_M\_6  
 Input\_16\_M\_6  
 ground  
 Output\_9\_M\_6  
 Output\_10\_M\_6  
 Output\_11\_M\_6  
 Output\_12\_M\_6  
 Output\_13\_M\_6  
 Output\_14\_M\_6  
 Output\_15\_M\_6  
 Output\_16\_M\_6

**TNT#4  
E1/T1#1-8  
J111**

ground  
 Input\_1\_P\_7  
 Input\_2\_P\_7  
 Input\_3\_P\_7  
 Input\_4\_P\_7  
 Input\_5\_P\_7  
 Input\_6\_P\_7  
 Input\_7\_P\_7  
 Input\_8\_P\_7  
 ground  
 ground  
 Output\_1\_P\_7  
 Output\_2\_P\_7  
 Output\_3\_P\_7  
 Output\_4\_P\_7  
 Output\_5\_P\_7  
 Output\_6\_P\_7  
 Output\_7\_P\_7  
 Output\_8\_P\_7  
 ground  
 Input\_1\_M\_7  
 Input\_2\_M\_7  
 Input\_3\_M\_7  
 Input\_4\_M\_7  
 Input\_5\_M\_7  
 input\_6\_M\_7  
 Input\_7\_M\_7  
 Input\_8\_M\_7  
 ground  
 Output\_1\_M\_7  
 Output\_2\_M\_7  
 Output\_3\_M\_7  
 Output\_4\_M\_7  
 Output\_5\_M\_7  
 Output\_6\_M\_7  
 Output\_7\_M\_7  
 Output\_8\_M\_7

**TNT#4  
E1/T1#9-16  
J112**

ground  
 Input\_9\_P\_8  
 Input\_10\_P\_8  
 Input\_11\_P\_8  
 Input\_12\_P\_8  
 Input\_13\_P\_8  
 Input\_14\_P\_8  
 Input\_15\_P\_8  
 Input\_16\_P\_8  
 ground  
 ground  
 Output\_9\_P\_8  
 Output\_10\_P\_8  
 Output\_11\_P\_8  
 Output\_12\_P\_8  
 Output\_13\_P\_8  
 Output\_14\_P\_8  
 Output\_15\_P\_8  
 Output\_16\_P\_8  
 ground  
 Input\_9\_M\_8  
 Input\_10\_M\_8  
 Input\_11\_M\_8  
 Input\_12\_M\_8  
 Input\_13\_M\_8  
 input\_14\_M\_8  
 Input\_15\_M\_8  
 Input\_16\_M\_8  
 ground  
 Output\_9\_M\_8  
 Output\_10\_M\_8  
 Output\_11\_M\_8  
 Output\_12\_M\_8  
 Output\_13\_M\_8  
 Output\_14\_M\_8  
 Output\_15\_M\_8  
 Output\_16\_M\_8

P = + / M = -

**Figure 46 – DBS connections, assignment of access points (3)**



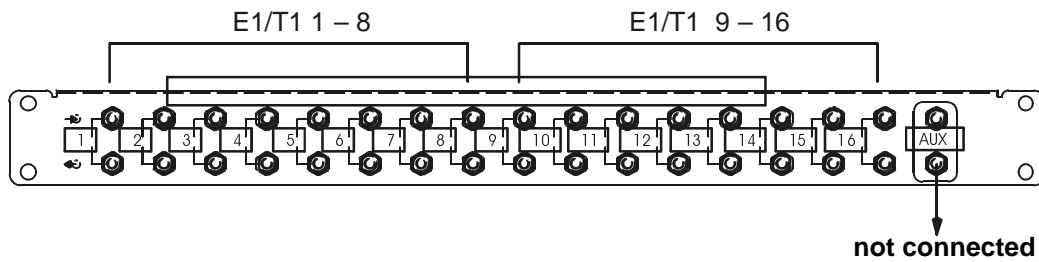
### 3.5.3.2 Connections to 75 ohm coaxial distributors

Connections are made beneath the roof of the standard rack or on the front panel for a different type of rack.

Optional cables and distributors are in the installation set.

1.6 / 5.6, 75 ohm distributor for 16 E1 / T1, ref: 3CC08061Axxx.

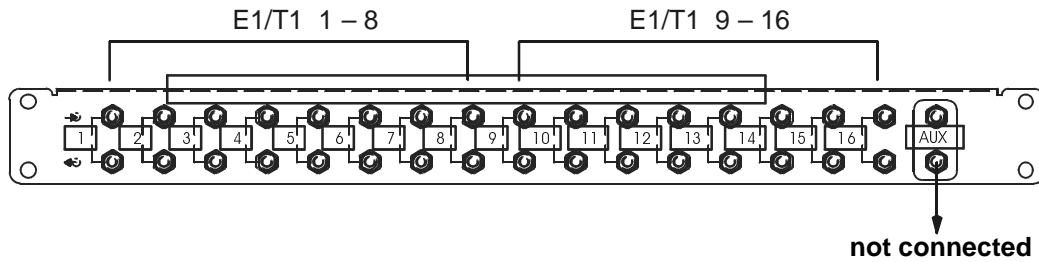
- One distributor per TNT board.
- TNT connectors (J105 to J112) connected to the top panel of the DBS subrack with (n) 3CC11236Axxx cable(s).



**Figure 47 – 1.6/5.6, 75 ohm distributor**

75 ohm BNC distributor for 16 E1 / T1 ref.: 3CC08061Axxx.

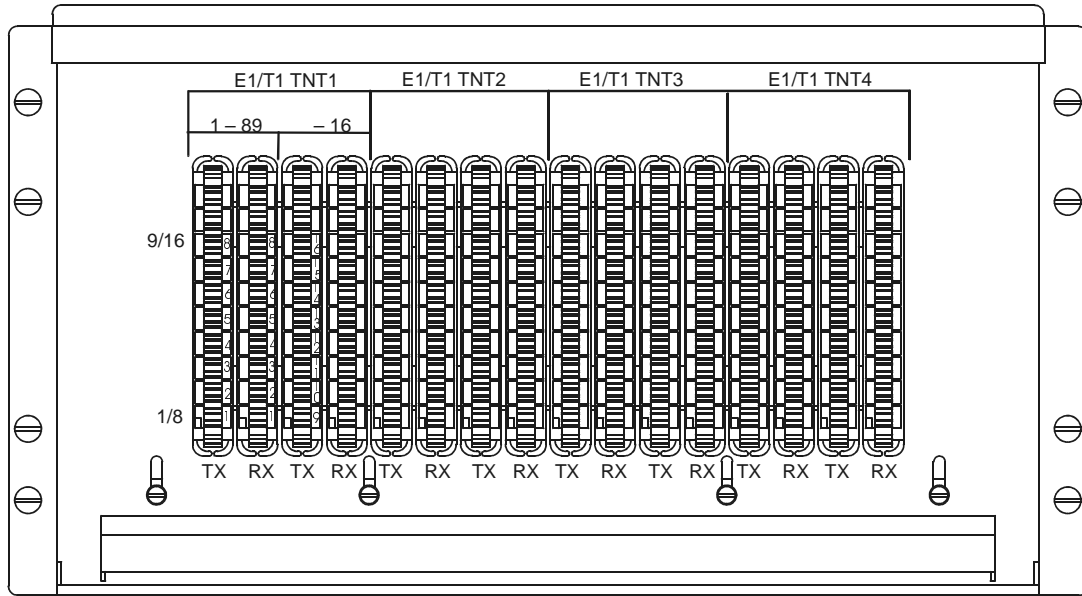
- One distributor per TNT board.
- TNT connectors (J105 to J112) connected to the top panel of the DBS subrack with (n) 3CC11237Axxx cable(s).



**Figure 48 – BNC 75 ohm distributor**

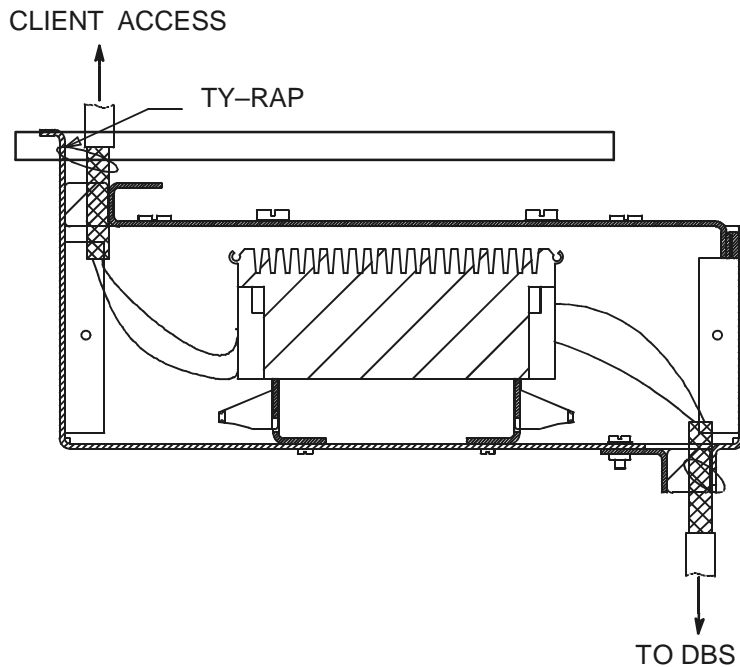
**3.5.3.3 Connections to 120 ohm distributors**

- Connections to 120 ohm (E1) or 100 ohm (T1) distributor of the TNT connectors (J105 to J112) of the top panel of the DBS subrack with (n) 3CC11238Axxx cable(s).



Out put DBS → RX access  
In put DBS → TX access

**Figure 49 – Connection panel beneath the roof of the standard rack**



**Figure 50 – Cable mounting and grounding**