

Qualified Partner Programme QPP

Voice Integration

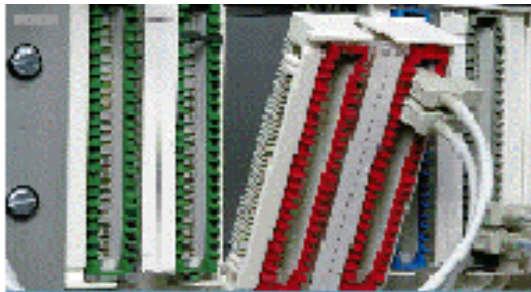
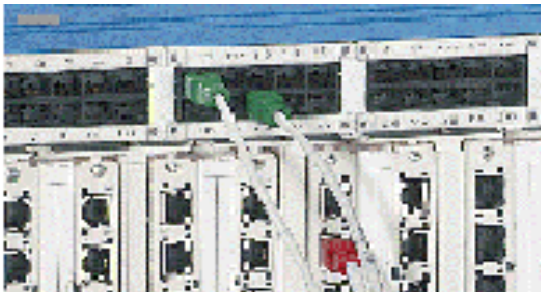
Felice Guarna



Convincing cabling solutions

Easiest voice integration - with "R&Mfreenet"

- The worlds of voice and data transmission are increasingly growing together.
- Modern private automated branch exchanges (PABX), for example, offer ISDN capability not only on the exchange side but also internally which means that computers with ISDN boards can be operated as PABX extensions.
- With "R&Mfreenet" we introduce three different possibilities how you can easily, and economically, implement the integration of telephonic applications over the generic cabling.



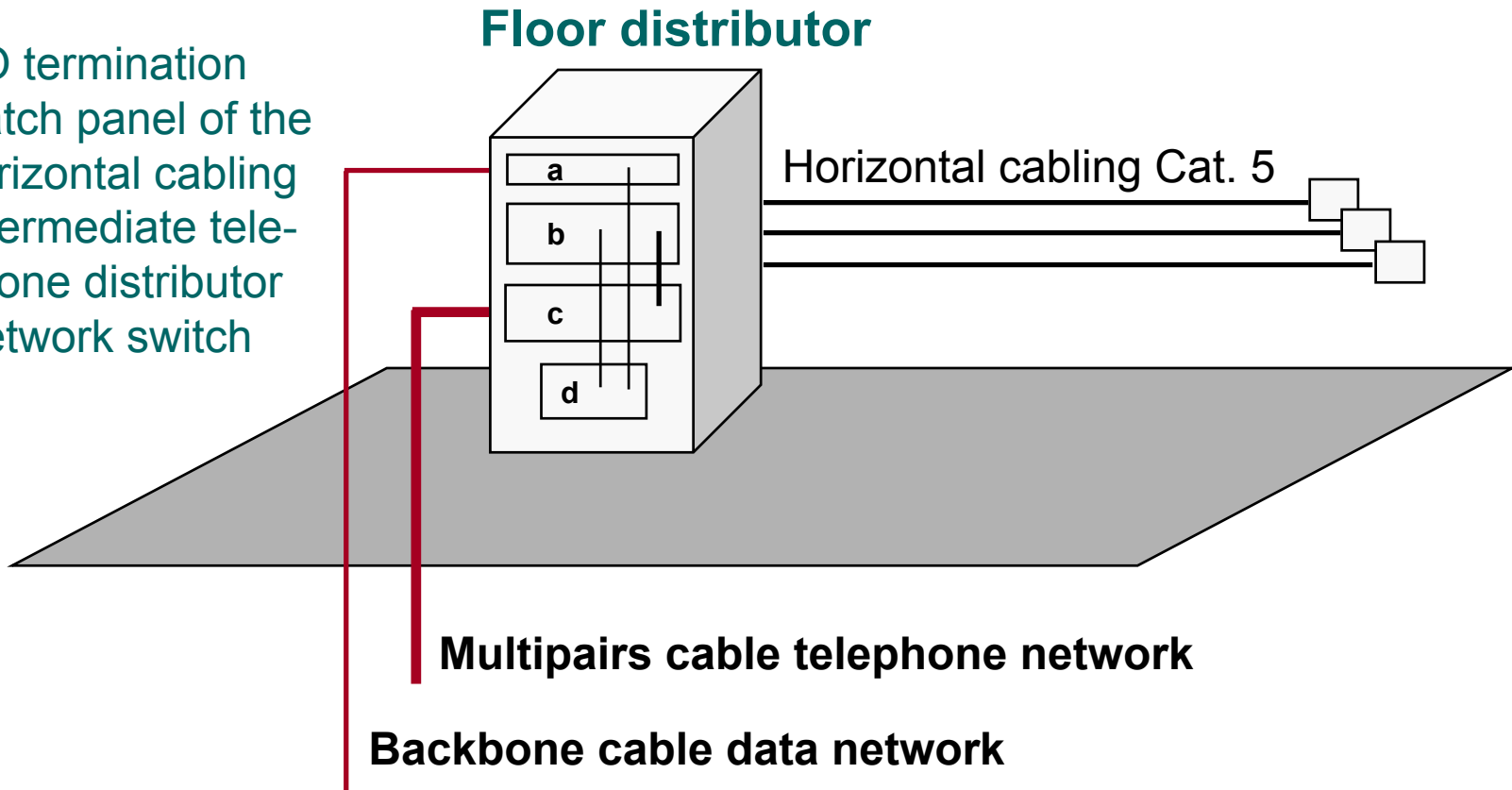
Voice integration in structured cabling systems, table of contents

1. **Concept**
2. **19" 1U Voice patch panel**
 - 2.1 Overview single parts
 - 2.2 Connection module 10xRJ45/u
 - 2.3 Concentrator module 10xRJ45/u
 - 2.4 Connection module ISDN/Bus
 - 2.5 Application with connection module
 - 2.6 Application with concentrator module
 - 2.7 Application with concentrator module
 - 2.8 Application with connection module ISDN/Bus
3. **19" Patch panels type standard**
 - 3.1 4U with VS interface 10 Pairs
 - 3.2 VS print inserts
 - 3.3 Patch cables
 - 3.4 Application with VS interface 10 pairs
4. **19" 3U Patch panel type SRV**
 - 4.1 Swivel unit and SRV connection element
 - 4.2 Patch cables
 - 4.3 Application voice & data in the same rack
 - 4.4 Application voice & data separated

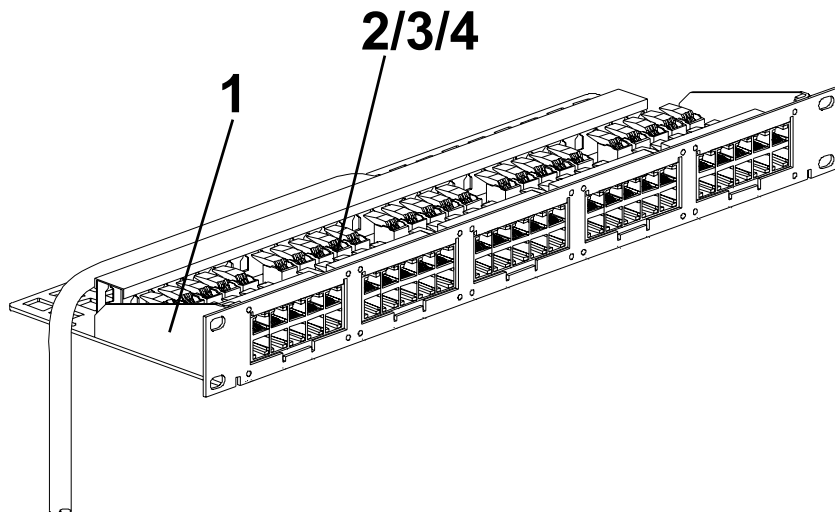
1. Concept

Legend:

- a) FO termination
- b) Patch panel of the horizontal cabling
- c) Intermediate telephone distributor
- d) Network switch



2.1 Overview single parts



Construction:

- (1) 19" 1U sub-rack
- (2) Connection modules 10xRJ45/u
- (3) Concentrator modules 10xRJ45/u
- (4) Connection modules ISDN/Bus

Type of connection:

- Tool-free easy lock connection technique. Contacts without soldering, screwing or stripping for multipairs cables AWG 24-22.

Packing density referring to 1U:

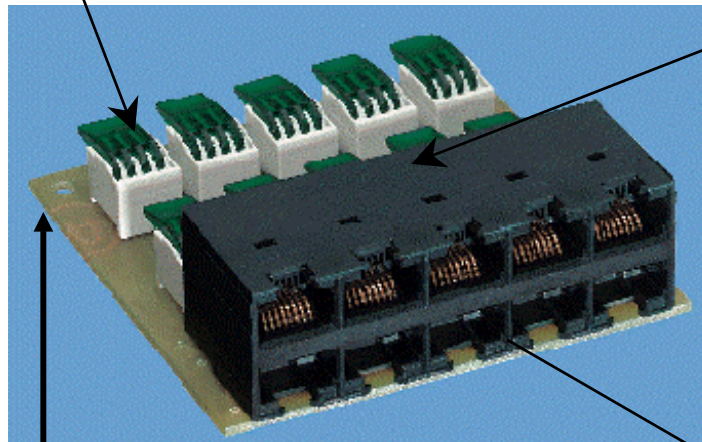
- max. 100 pairs can be wired.
- max. 50 outlets are available

Field of application:

- As a voice intermediate distributor with high packing density in 19" floor distributors.

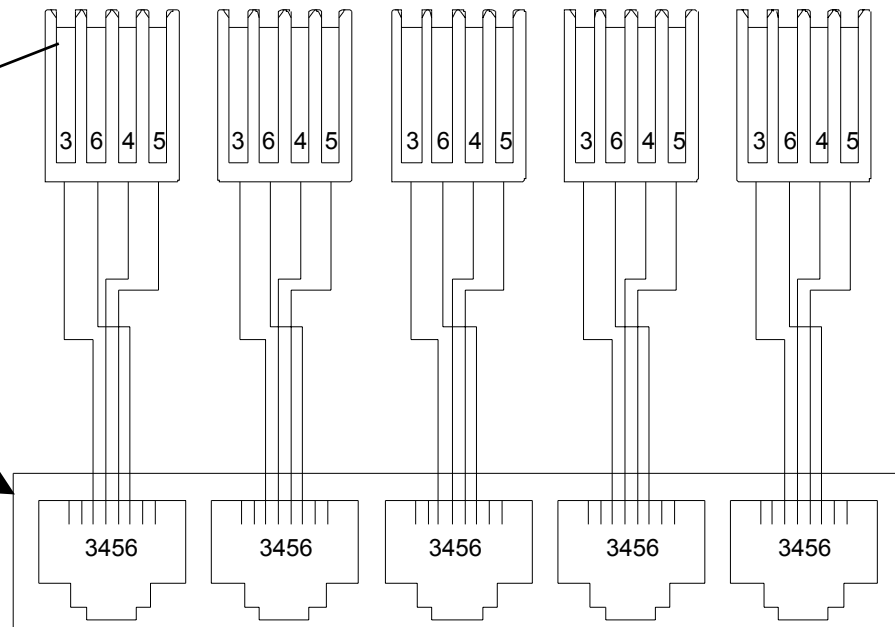
2.2 Connection module 10 x RJ45/u

Easy lock connections
for installation cables
AWG 24 - 22



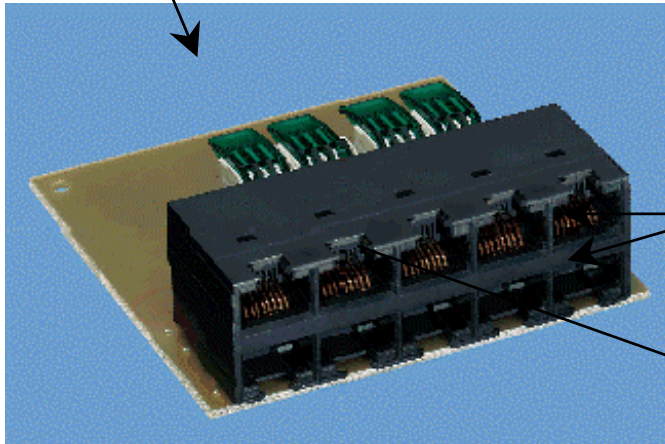
Fixing screws

Wiring plan



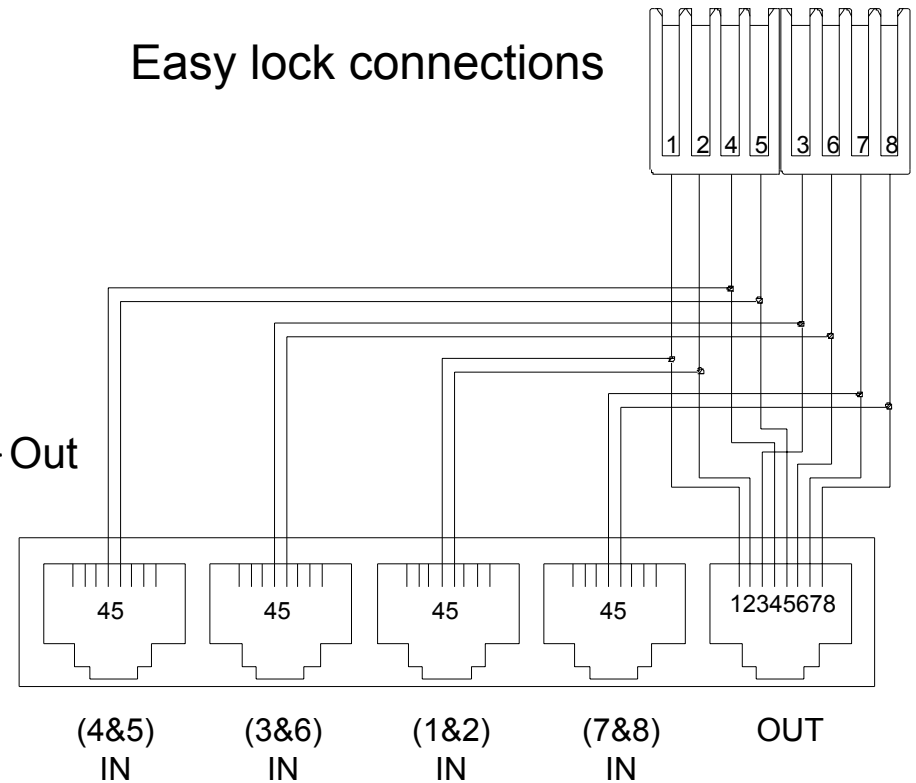
2.3 Concentrator module 8 x RJ45/u

Easy lock connections
for installation cables
AWG 24 - 22



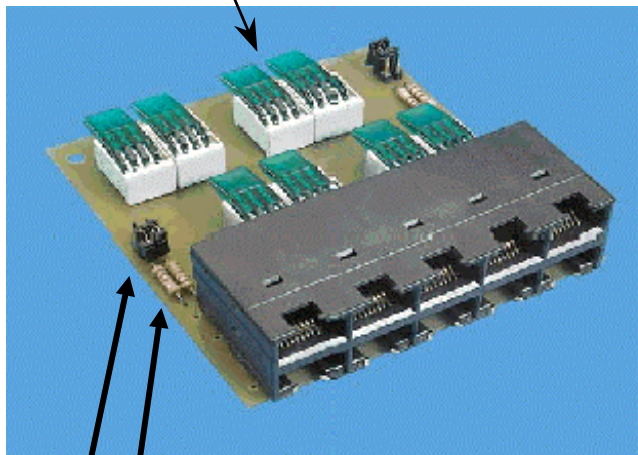
Wiring plan

Easy lock connections



2.4 Connection module ISDN/Bus 10 x RJ45/u

Easy lock connections
for installation cables
AWG 24 - 22

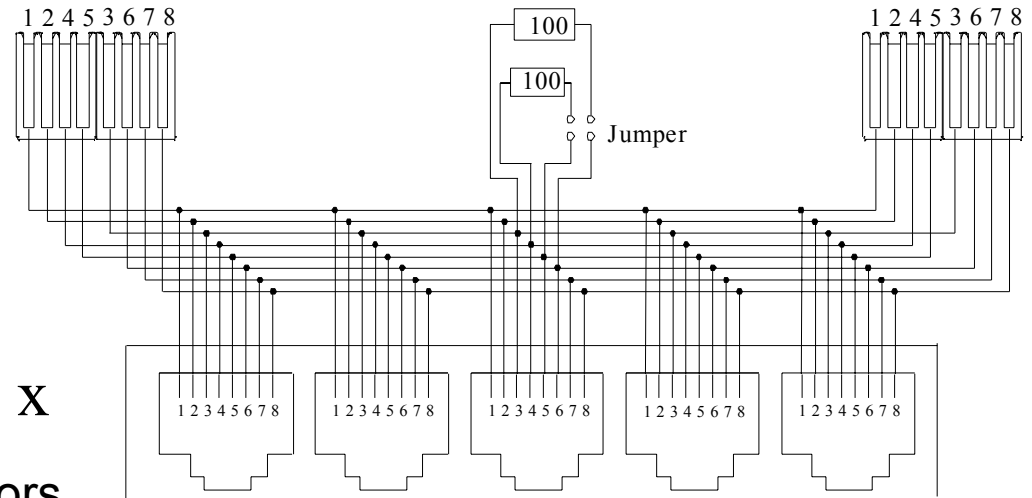


2 x

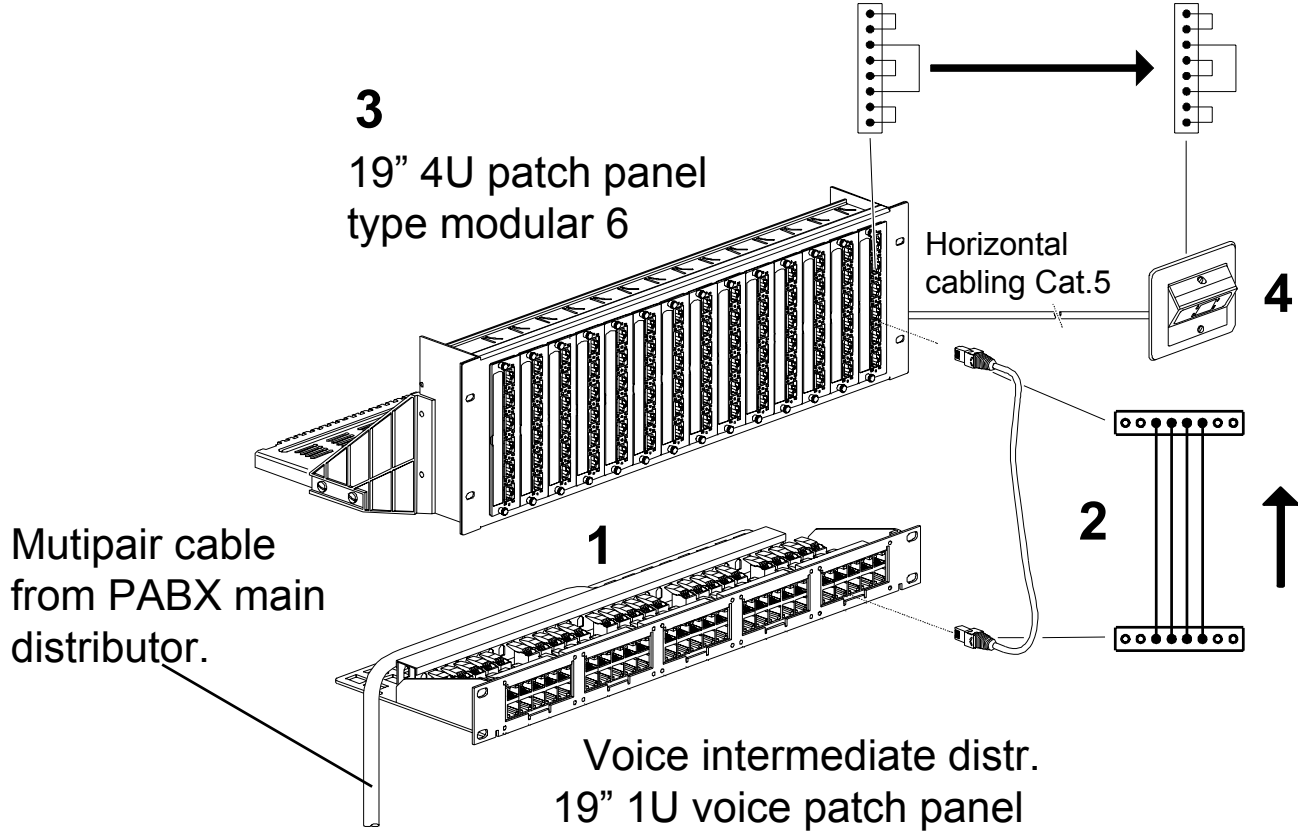
Bus terminating resistors
Resistor including jumpers

Wiring plan

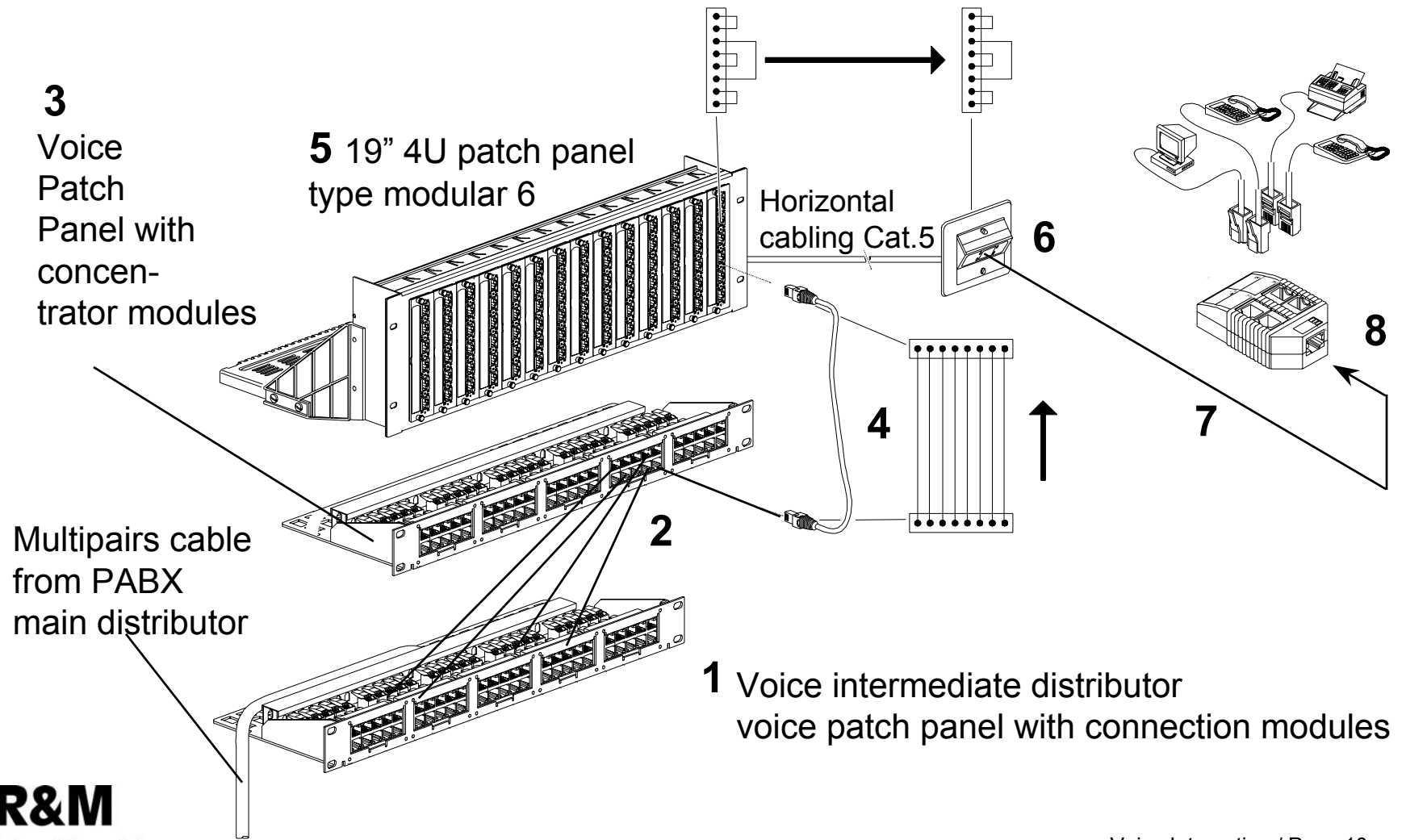
Easy lock connections



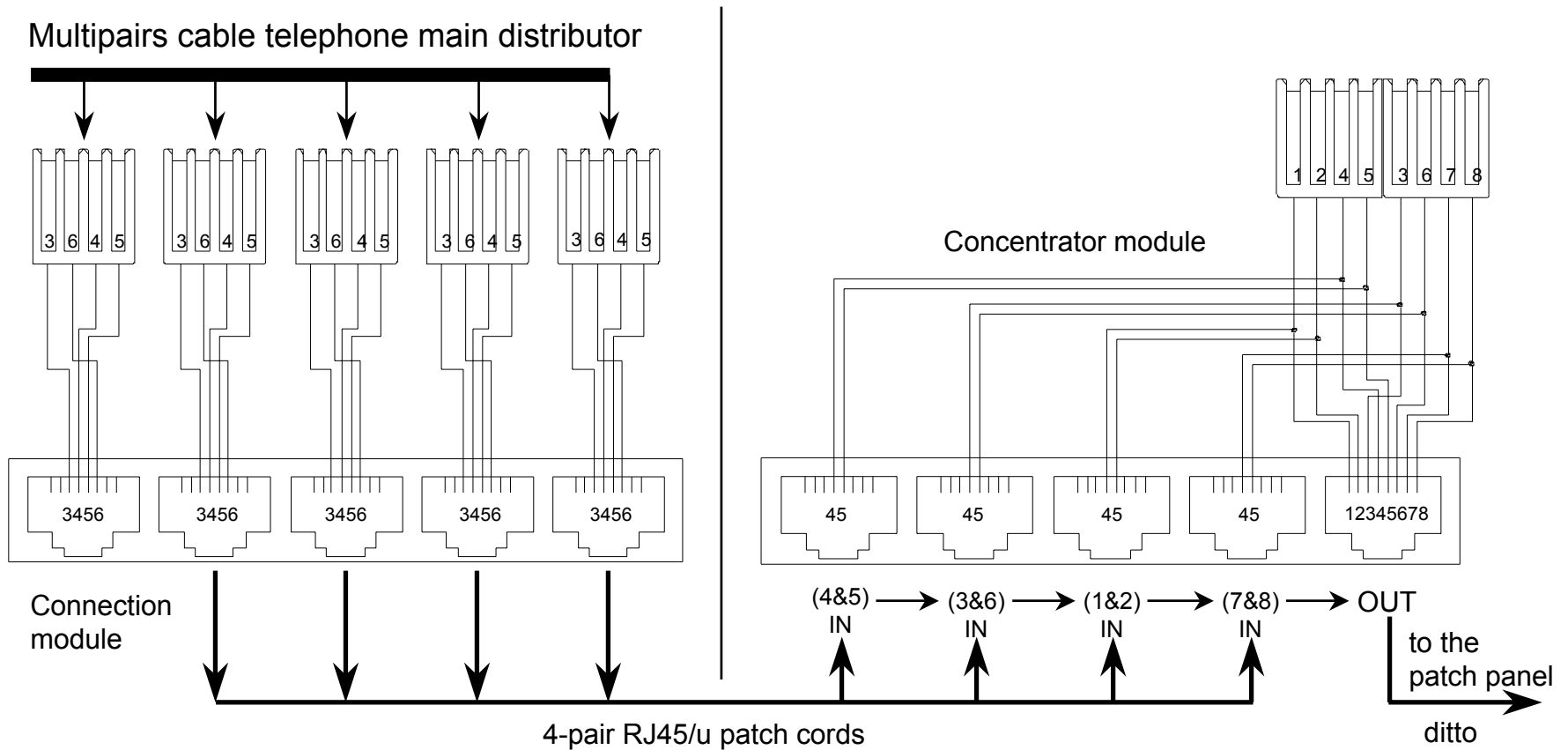
2.5 Application with connection module



2.6 Application with concentrator module



2.7 Application with concentrator module

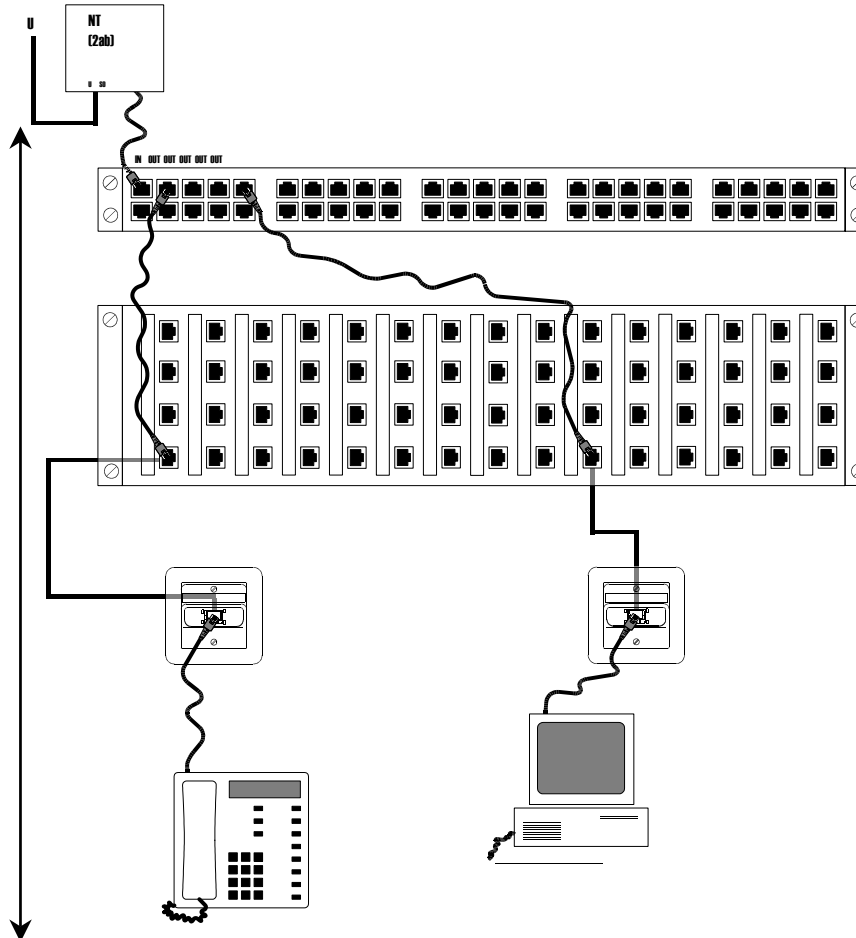


2.8 Application with connection module ISDN/Bus

Table max. total lengths

No. connections	Max. length per output
<4	100m
5	80m
6	70m
7	60m
8	50m

Maximum length 100 m



ISDN NT
(network connection)

Voice patch panel with
10xRJ45 ISDN/Bus
connection modules

Horizontal patch panel

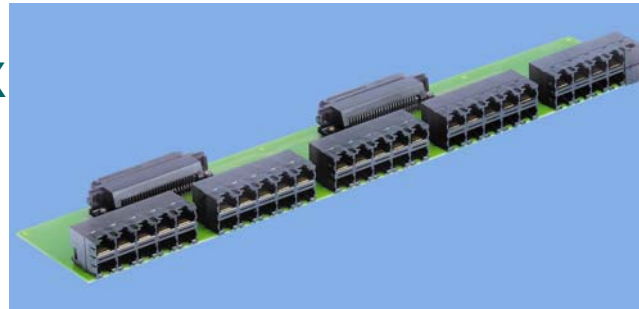
Work place outlet

ISDN terminal devices

2.9 PBX connection module

R&M supported plug and play cabling solution for:

- Nortel Meridian PBX



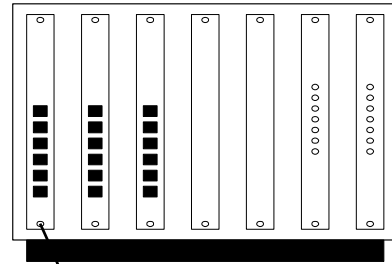
- Ascom 20XX PBX



- DeTeWe Open Com PBX

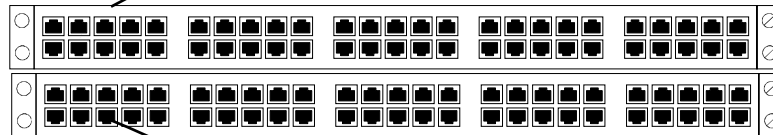


2. 10 PBX Application with connection module

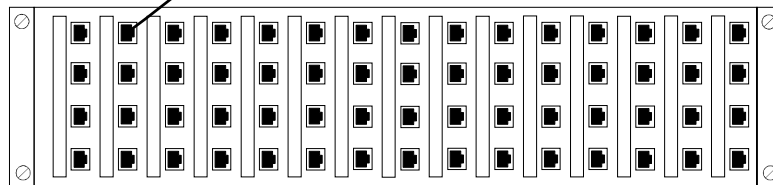


PBX
(Nortel Meridian, Ascom, DeTeWe)

Pre-assembled cable, with interface (AMP Modu, Telco, etc.)

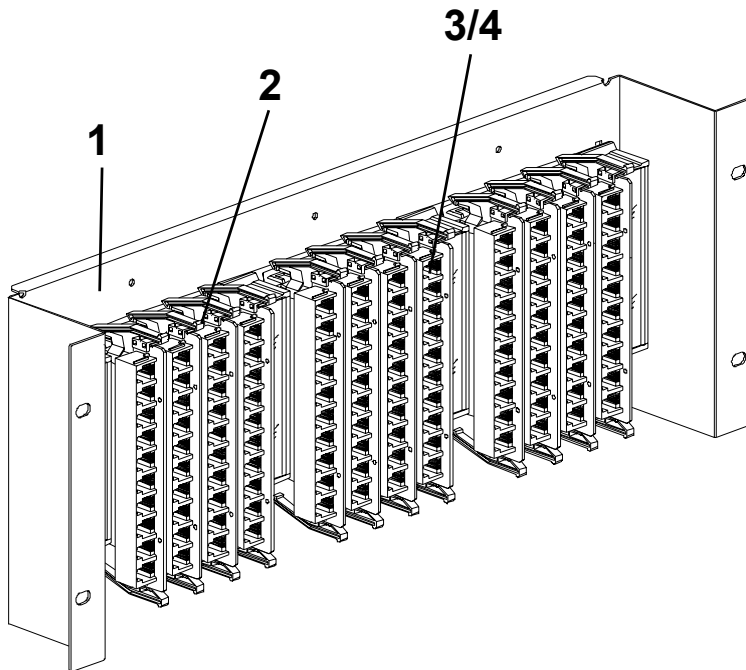


**Voice panel (1U) with PBX RJ45
Connection module**



Horizontal distribution field

3.1 19" 4U with VS interface 10 pairs



Construction:

- (1) 19" 4U sub-rack, vertical
- (2) 16 VS Standard 10 Pairs Elements
- (3) 16 VS / 10xRJ11/u Print Inserts 10 Pairs
- (4) 16 VS / 5xRJ45/u Print Inserts 10 Pairs

Way of connection:

- With the VS-Tool, the pairs are wired without soldering, screwing or stripping.

Packing density related to 4U:

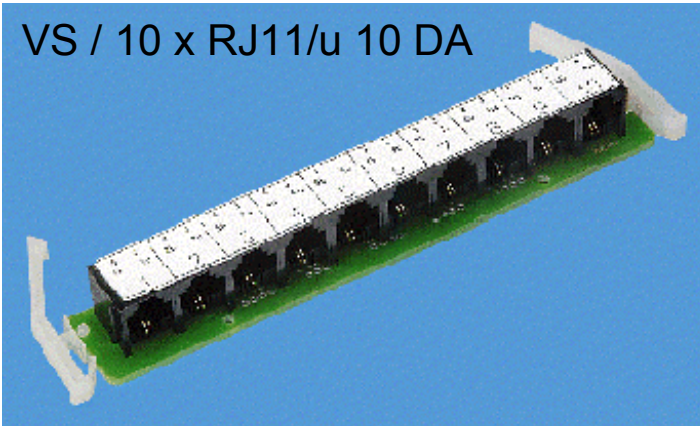
- Max. 160 pairs can be wired.
- Max. 160 RJ11 Ports (2-poles) are possible
- Max. 80 RJ45 Ports (4-poles) are possible

Field of application:

- As a voice intermediate distributor of medium packing density in 19" floor distributors.

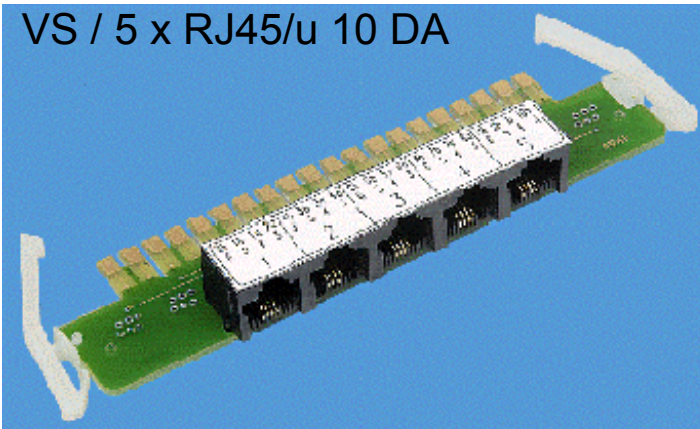
3.2 VS print inserts

VS / 10 x RJ11/u 10 DA



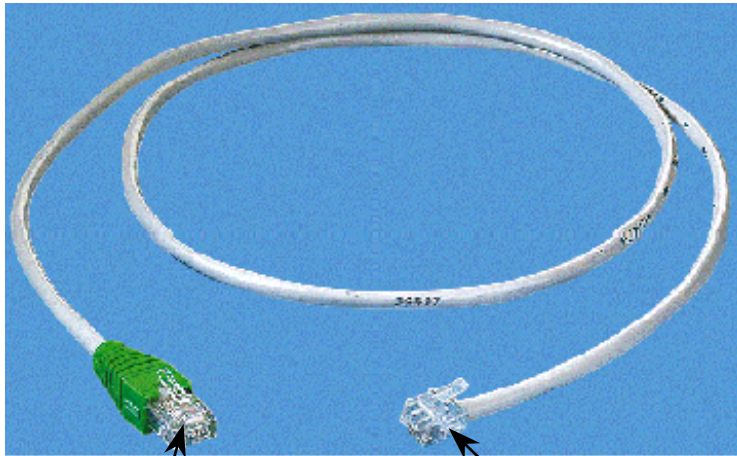
Pin assignment
RJ11/u: 3&4

VS / 5 x RJ45/u 10 DA



Pin assignment
RJ45/u: 4&5 / 3&6

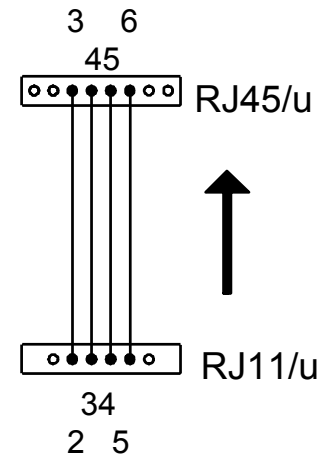
3.3 Patch cables



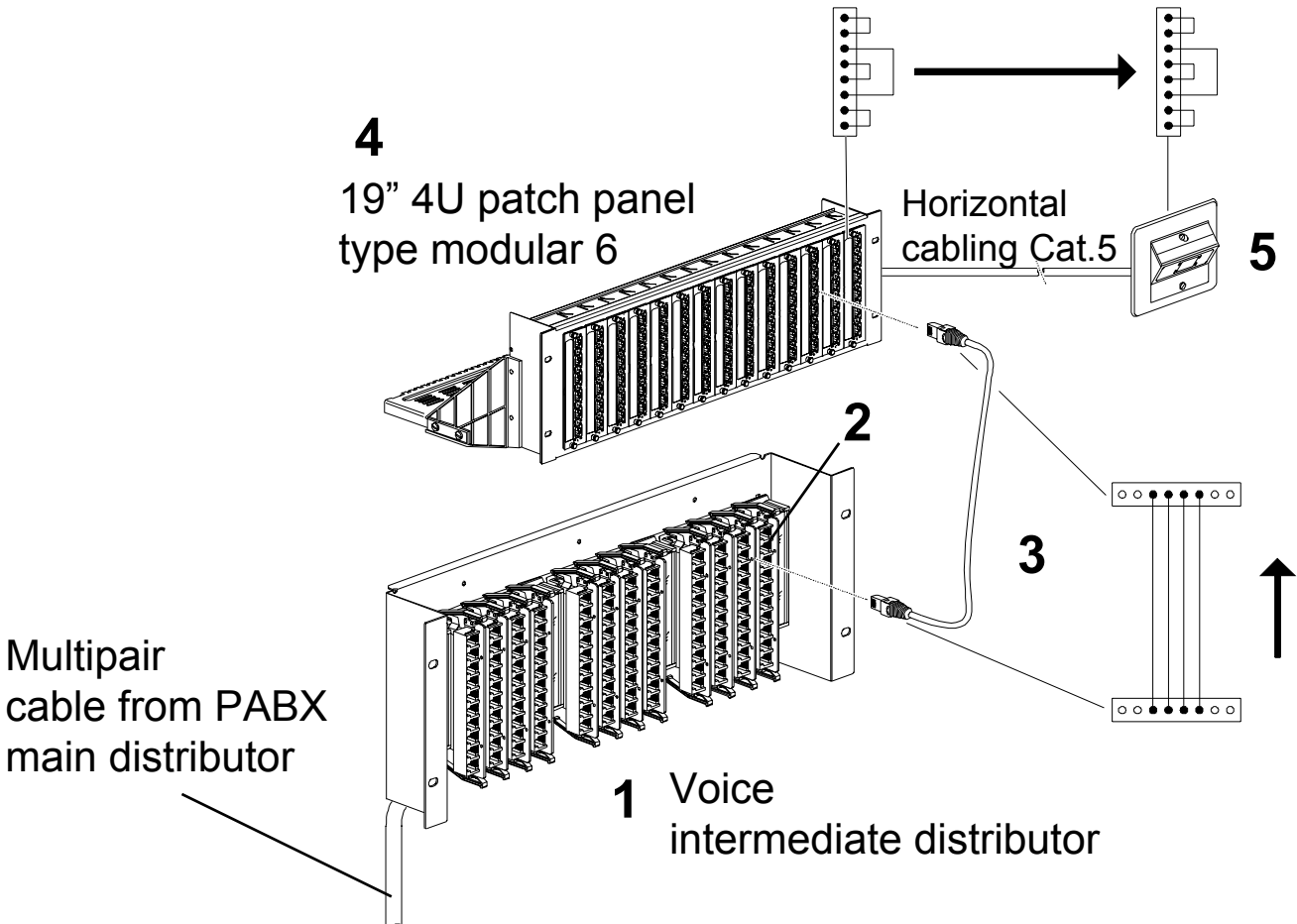
RJ45
plug

RJ11
plug

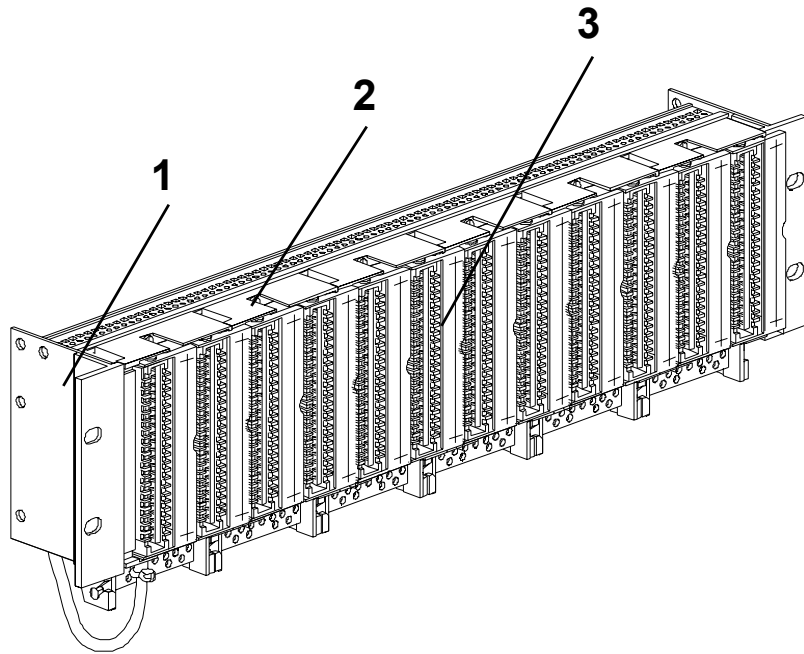
Pin assignment:



3.4 Application 4U rack & VS interf. 10 pairs



4. 19" 3U patch panel type SRV



Construction:

- (1) 19" 3U sub-rack
- (2) 6 Swivel units complete with
- (3) 12 SRV- connection elements 40 poles

Way of connection:

- Tool-free Easy-Lock connection technique. Contacts without soldering, screwing or stripping.

Packing density related to 4U:

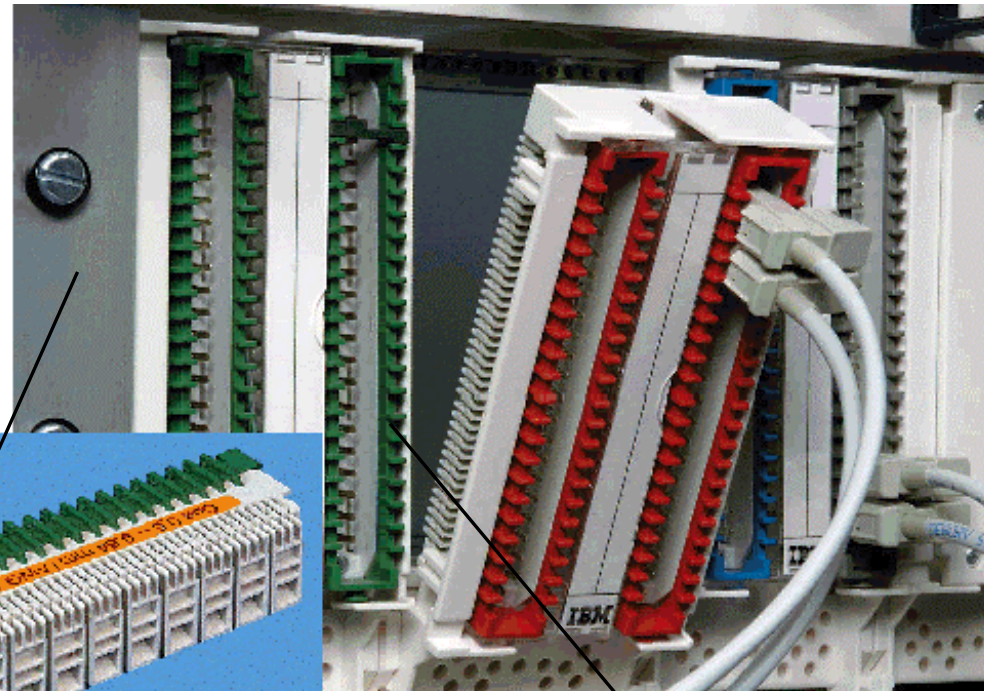
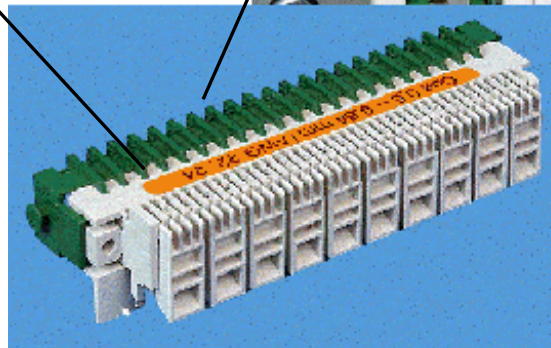
- Max. 240 pairs can be wired
- Max. 240 SRV ports (2-poles) are possible
- Max. 120 SRV ports (4-poles) are possible

Field of application:

- As a voice intermediate distributor of medium packing density in 19" floor distributors.

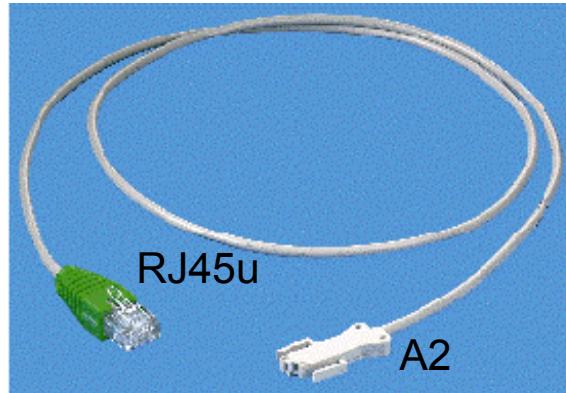
4.1 Swivel unit & SRV connection element

SRV connection element

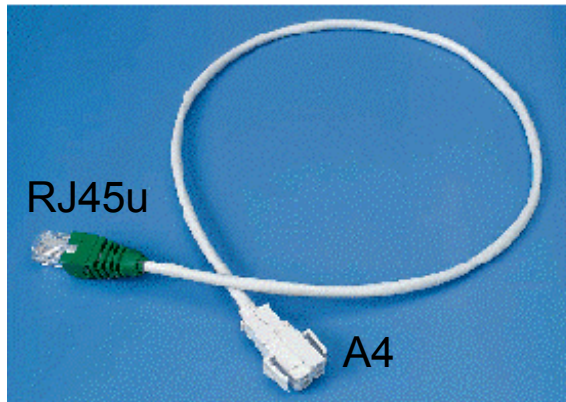
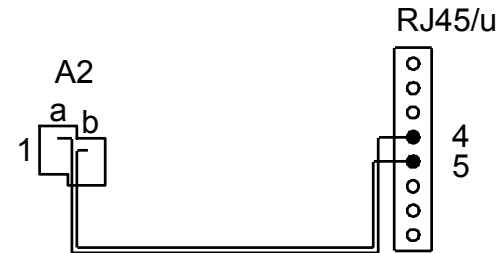


Swivel unit

4.2 Patch panel



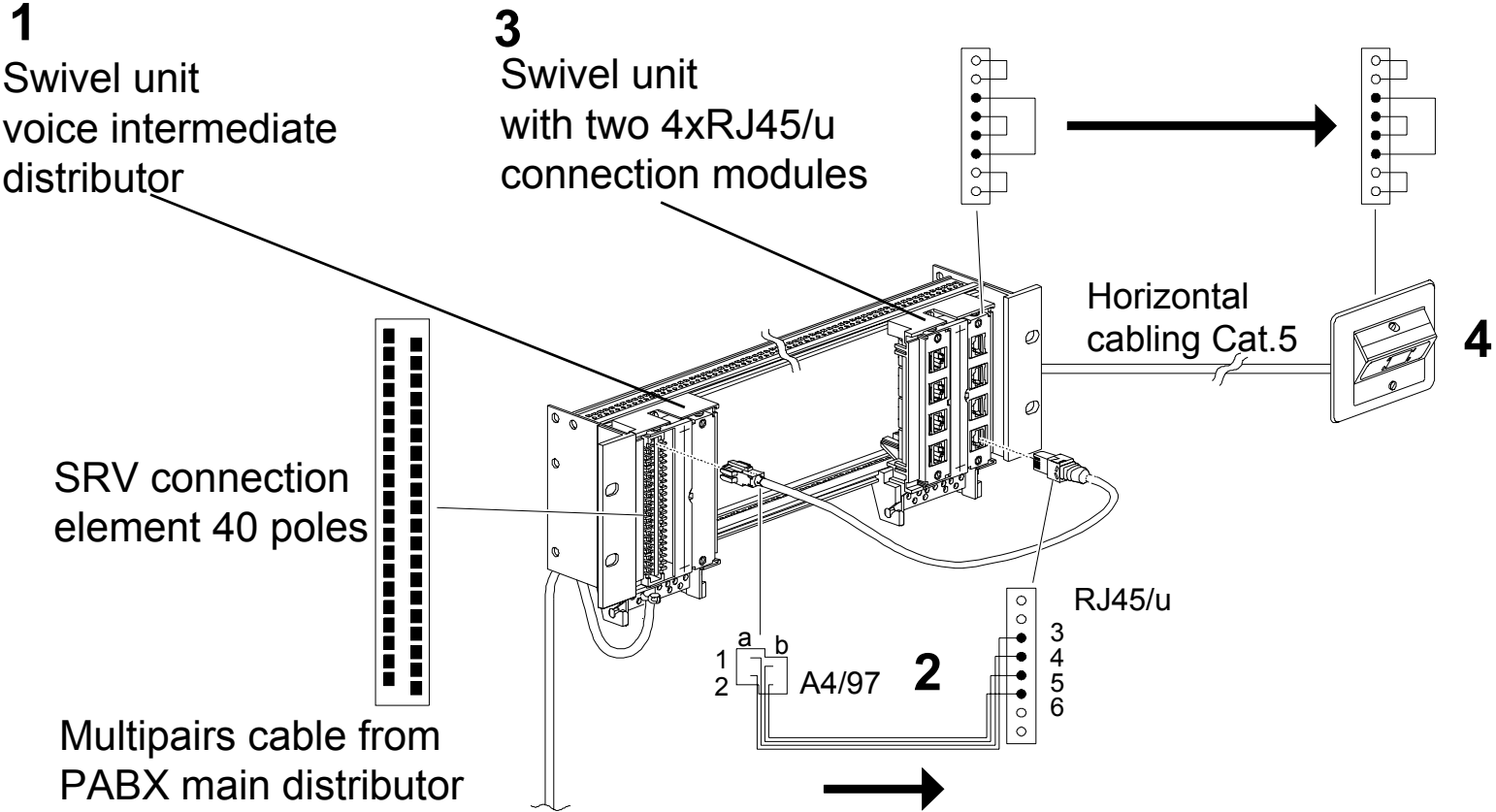
Patch cable UTP, A2 - RJ45/u



Patch Cable UTP, A4 (1) - RJ45/u
(1) SRV - plug 97



4.3 Application voice & data in the same rack



4.4 Separate voice & data application

