



# INSTRUCTION MANUAL

NPPA-TT-SD50

PATCH PANEL "Easy Patch" | 96 Bantam (TT) Jacks, 50 pin  
D-subminiature



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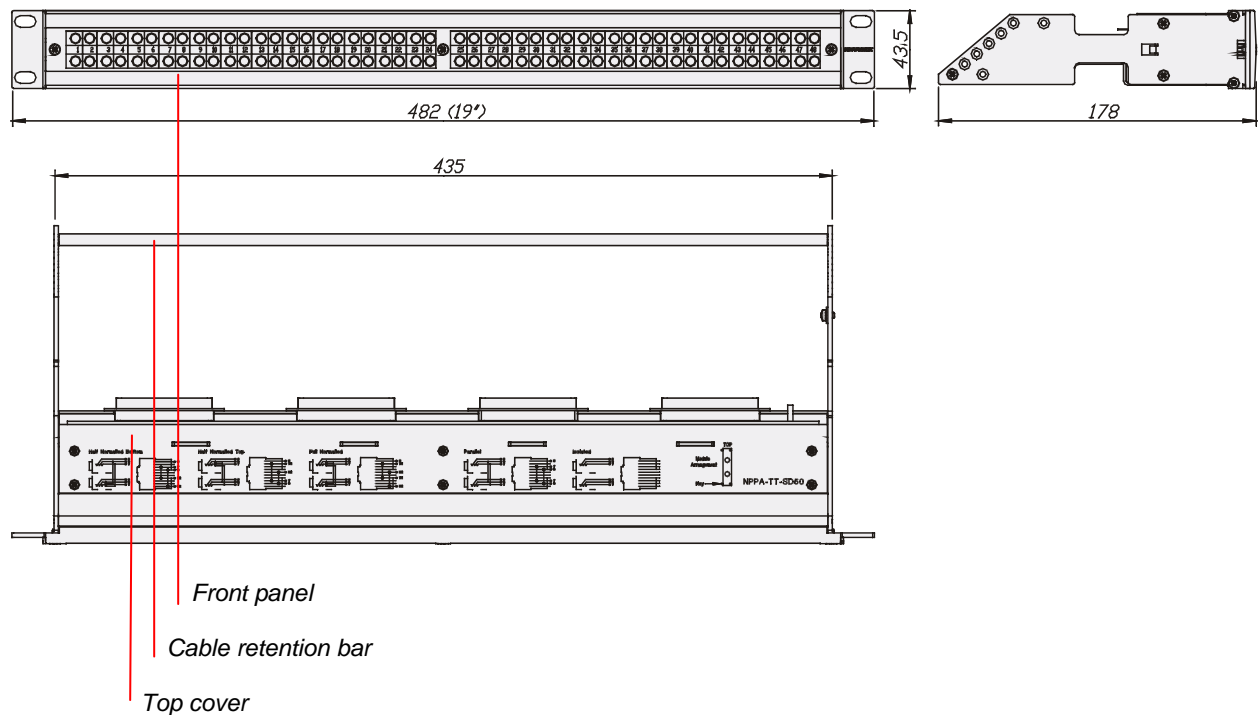
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*Dimensional Drawing NPPA-TT-SD50*





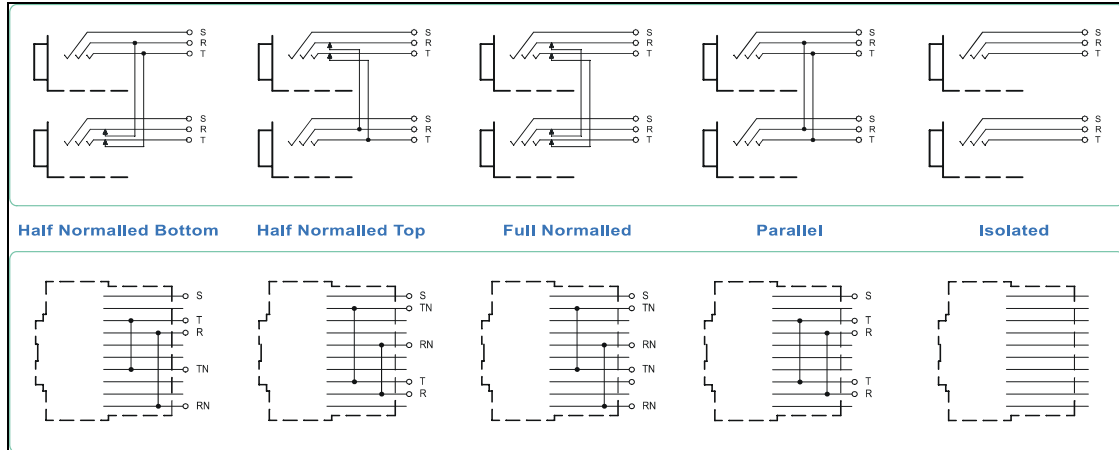
## 1. Electrical configuration

The Neutrik "Easy Patch" is fitted with high quality, long life NJ3TTA double contact jacks (2 x 48) with drastically improved contact integrity. The NJ3TTA double contact jacks are gold plated and prewired. The Neutrik "Easy Patch" is an innovative and compact patching system (just 1 U high) for 19" rack mounting. Robustly housed in black coated steel casing and featuring precision aluminum fittings it is built to last. The Neutrik "Easy Patch" is suitable for analog and digital audio signals.

The new generation of the Neutrik "Easy Patch" is easily programmable for any out of five electrical configurations:

- half normalled bottom row
- half normalled top row
- full normalled
- parallel
- isolated

The programming feature allows to set all possible switching configurations inside the jack pair with a specially designed mechanism and individually for each channel.



Configuration Chart

The standard configuration on "Easy Patch" NPPA-TT-SD50 is half normalled bottom row. Modules NJ3TTA-4-.x. consisting of two "Plug-in Units" (or four jacks NJ3TTA) with prefabricated normalling are also available.



## 2. Replacement of Jack Pairs

Each individual jack pair can be exchanged or re-configured without fuss even while the unit is “on air”. For replacement or re-configuration just remove the easy accessible module consisting of two “Plug-in Units”.



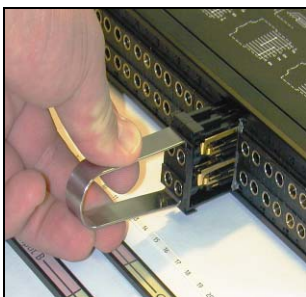
*Module consisting of 2 Jack Pairs*



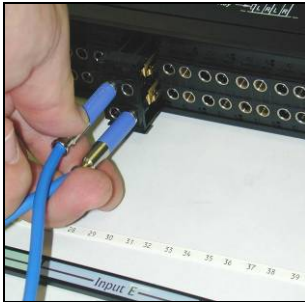
Remove Front Panel by unscrewing the 3 black cross-recessed screws (M3x8 Taptite), remove the two side-stops.



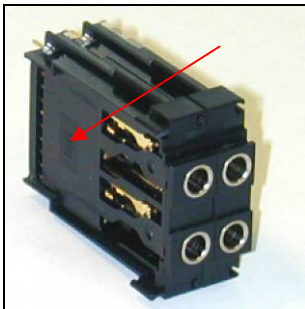
Push out the channel identification strips.



Pull one module out of the casing using the supplied disassembling pliers



Alternatively the jack pairs may be pulled out by the use of two Bantam plugs (diagonally plugged in).

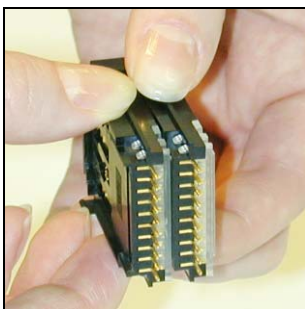


The two jack pairs have to be re-assembled in the right way so that the thicker body marked "left" is put on the left side with the mark outside and readable.

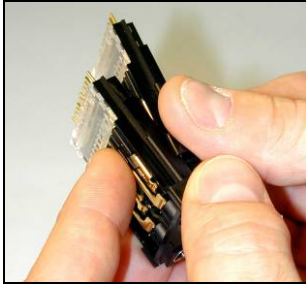
To complete, push the new jack pairs into the casing again with the mark on the left side (If more than one module are removed always assemble from the center to the right or left side and be careful that the keys on the left side of the jack pairs find their guiding slots. If all jack pairs are removed start at the casing support in the center and assemble to the right and left side). Slide in again the channel identification strips (best from the outside inwards) and fix the front panel with the black cross-recessed screws. Don't forget to insert the side-stops before fixing the screws (see page 10).

### 3. Reconfiguration by hand

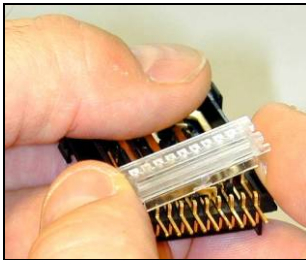
For easy and safe modification work we recommend our preconfigured jack pairs (NJ3TTA-4-\*). Please note, in case of emergency the normalling can be changed by hand by the use of normalling bars.



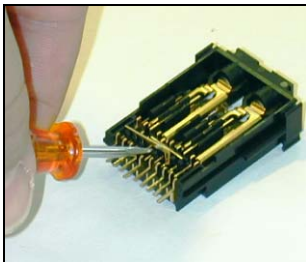
The two jack pairs are separated by spreading apart the rear parts to unlock the fixing mechanism till it is possible...



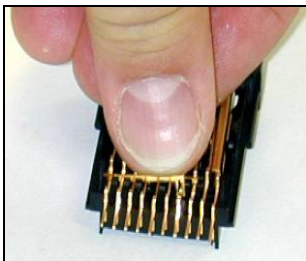
...to slide the jack pairs against each other in axial direction.



Then remove the cover with a tiny grip at the side and carefully



Pull out the configuration bars you need to exchange (preferably using a small screw-driver).



Insert new bars carefully by pressing them in parallel at both ends.

Attention: To ensure best contact conditions never reuse the configuration bars once being put in place! Always take new ones! Keep the contacts and switches in place with the thumb while manipulating the normalling contacts.



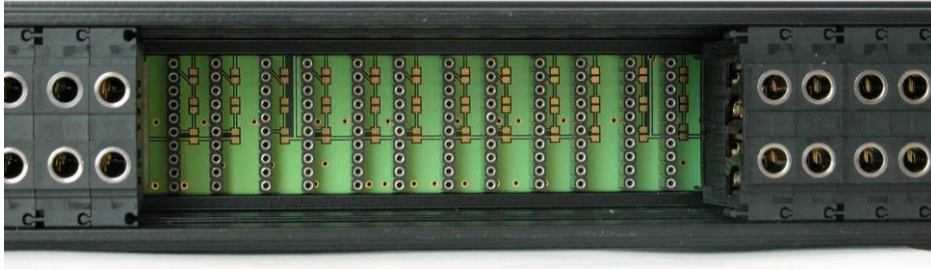
Finally snap on the cover (Insert it first at one side and then snap slightly into the opposite groove with a light pressure on the nose).



#### 4. Grounding variations

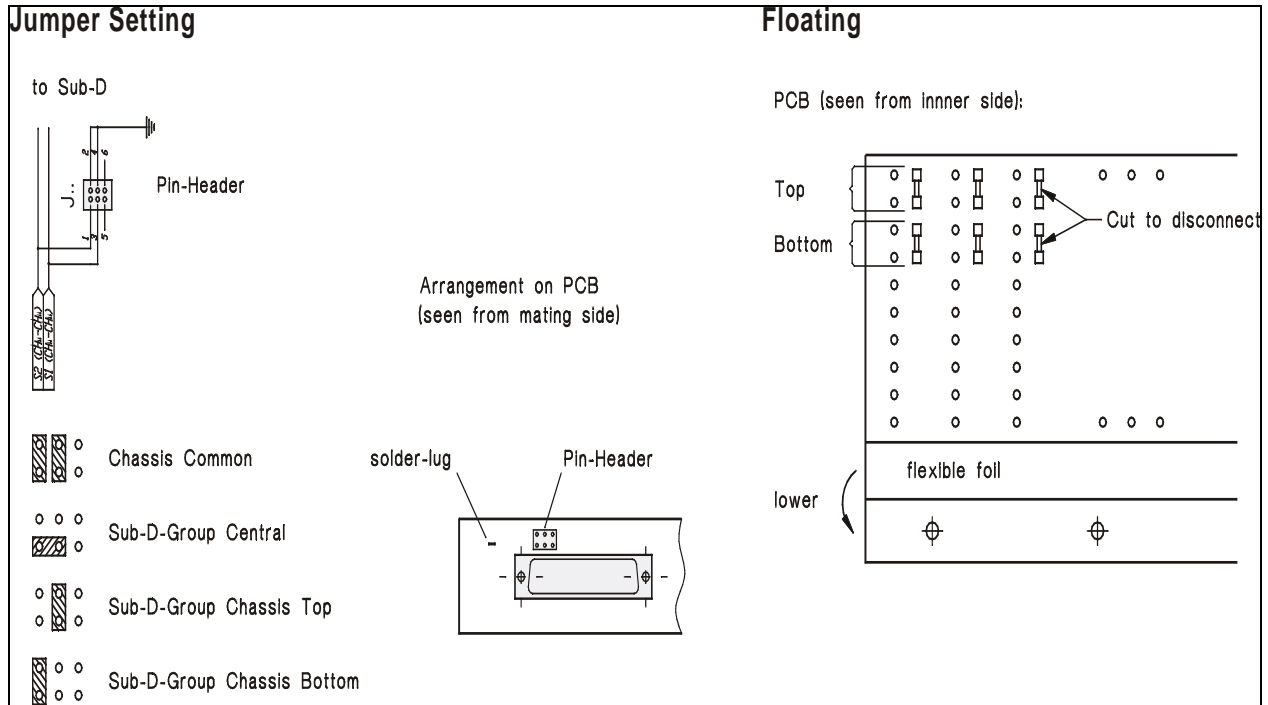
The patch panel is terminated with 4 Sub-D connectors each of them corresponding to groups (Sub-D groups) of 12 channels. Each Sub-D connector has only two ground contacts:

- one for the top row connecting all top row ground contacts
- one for the bottom row connecting all bottom row ground contacts



Each Sub-D group is configured by its own jumper block. The flexible grounding system provides the following alternatives to choose from:

- **Chassis Common:** All channel grounds (top & bottom row) are connected via PCB and jumpers to the patch panel chassis as standard (delivery configuration).
- **Sub-D-Group-Central:** Ground contacts of top and bottom row are connected but separated from chassis.
- **Sub-D-Group-Chassis Top or Bottom:** Either top or bottom ground contacts are connected to chassis.
- **Floating of individual channels:** The ground contacts of top and/ or bottom jacks of each channel can be disconnected from a Sub-D Group by cutting the tracks between the corresponding solder pads.



*Grounding Variations*

**Note:**

**Phantom powered microphones**

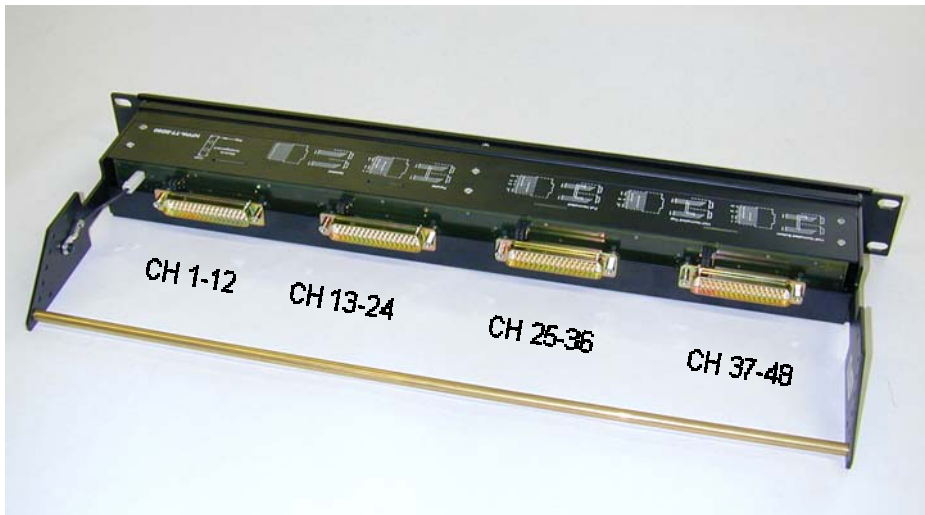
In general it is not recommended to run phantom power through patch panels. In the case it is required to patch phantom powered microphones, all of the shields (SLEEVE contacts) from this device must be tied together. This can be accomplished by grouping the grounds of these channels via the PCB bus (using solder bridges). This group is then connected onto the general technical ground. Because of the missing SLEEVE normalling contact it is necessary to wire internally the ground (sleeve) contact of the top and bottom row of each channel. If this is critical with respect to possible ground loops make the connections via patch cable instead of using the normalling feature.





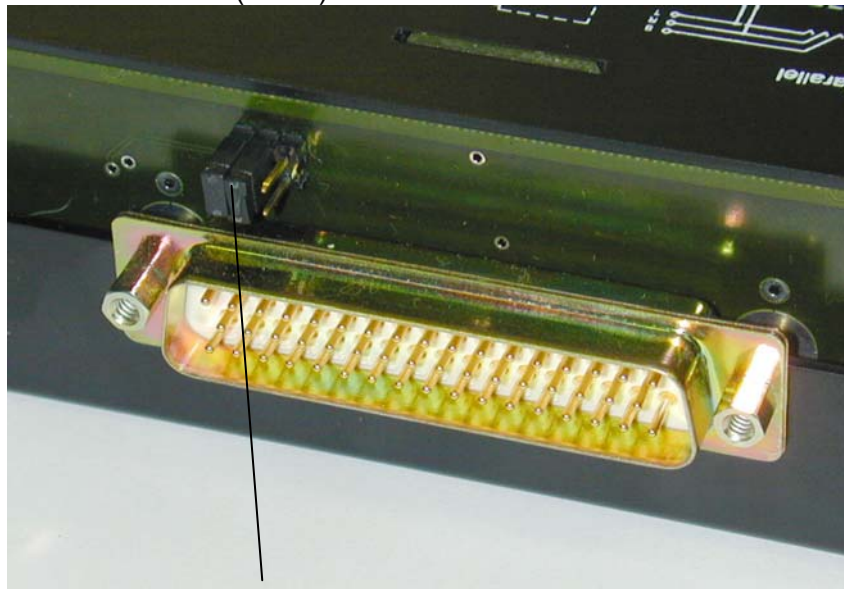
## 5. Wiring

Four Sub-D connectors with 50 pins each enable fast and easy wiring even with the patch panel installed in the rack.



*Rear front for wiring*

50 pin Sub-D connector terminal (SD50)



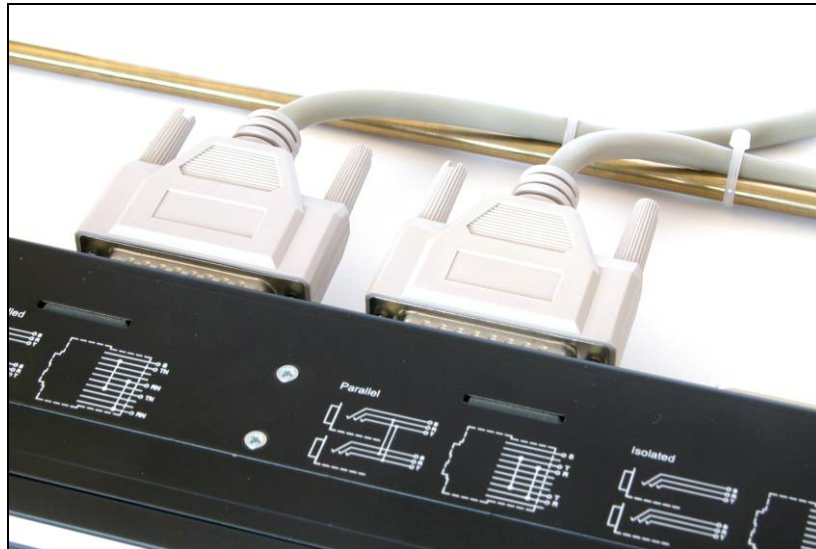
*Pin Header*



## 6. Cable retention to the unit

The built in cable retention bar is at the back of the casing. Simply attach the cables with cable ties to the bar.

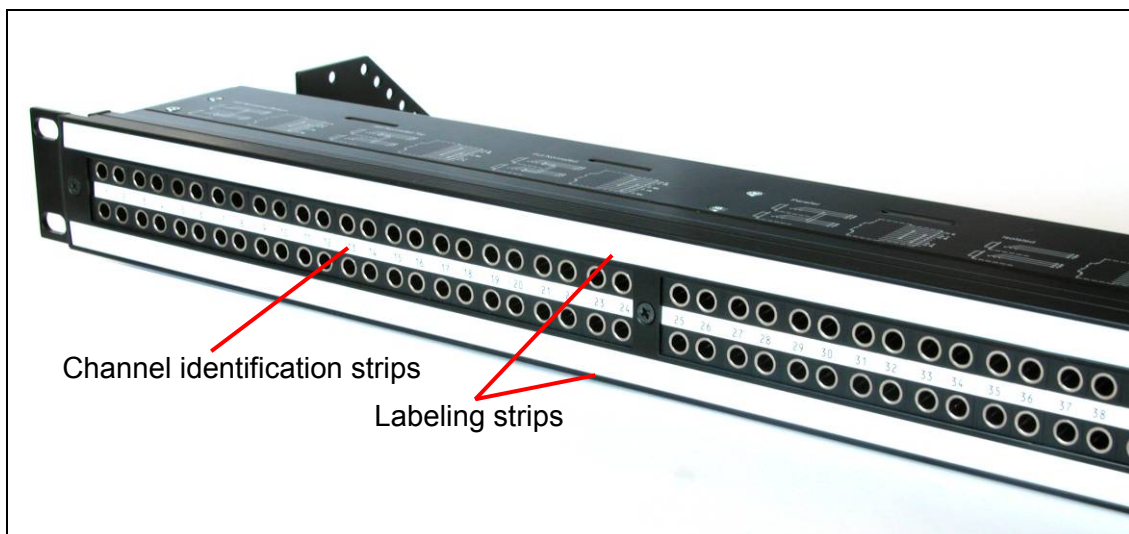
For large and heavy bundles there is an additional strain relief bar NPPA-S available. It is attached to the casing with four screws.



*Cable retention bar*

## 7. Channel identification

The front panel is equipped with channel identification strips located in the center of the channels and marked with the channel numbers 1-24 and 25-48 respectively.





## NPPA-TT-SD50 Instruction Manual

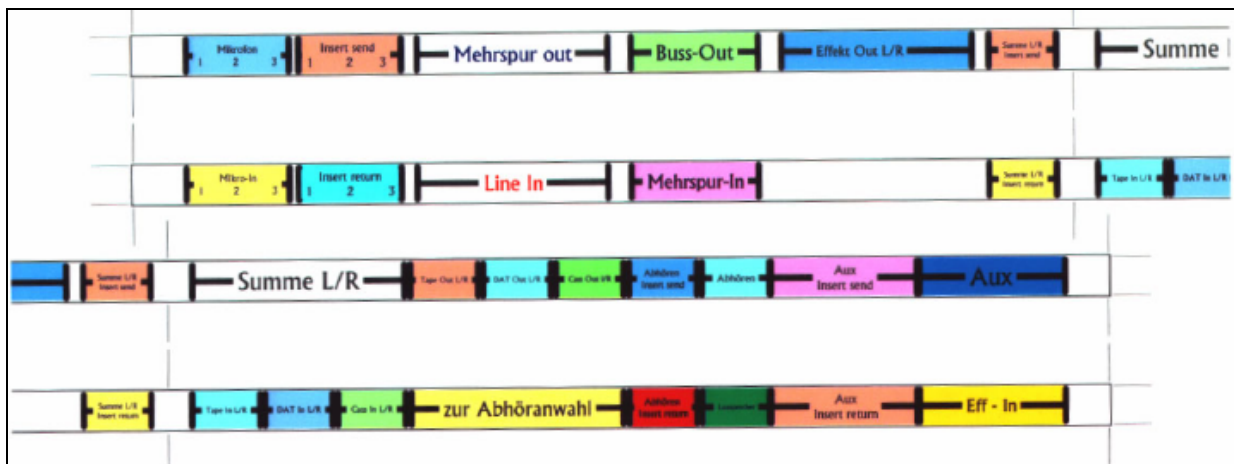
For the perfect management of the system and for individual identification according to customer's needs there are two large and separate labeling strips, one for the bottom and one for the top row.

To write on the paper you have to unscrew one of the outer fixing screws of the front panel. Then pull out the side-stop, the transparent foil and the paper strip itself. After marking is done assemble the parts in reversed sequence.



*Remove labeling strip*

For easy and perfect marking you can use our designation software "PatchLabel" which is available on our web site [www.neutrik.com](http://www.neutrik.com) free of charge.



*Print-Out software "Patch Label"*



## 8. Technical data

### 8.1 Electrical

Frequency range:	DC to > 50 MHz
Digital suitability:	Digital audio acc. to AES/EBU
Channel separation:	> 100 dB @ 10 kHz, 600 $\Omega$ terminated > 40 dB @ 6 MHz, 110 $\Omega$ terminated
Insulation resistance:	> 10 G $\Omega$ @ 500 V dc
Connector contact resistance:	< 20 m $\Omega$
Switch contact resistance:	< 25 m $\Omega$
Dielectric strength:	1000 V dc

### 8.2 Mechanical

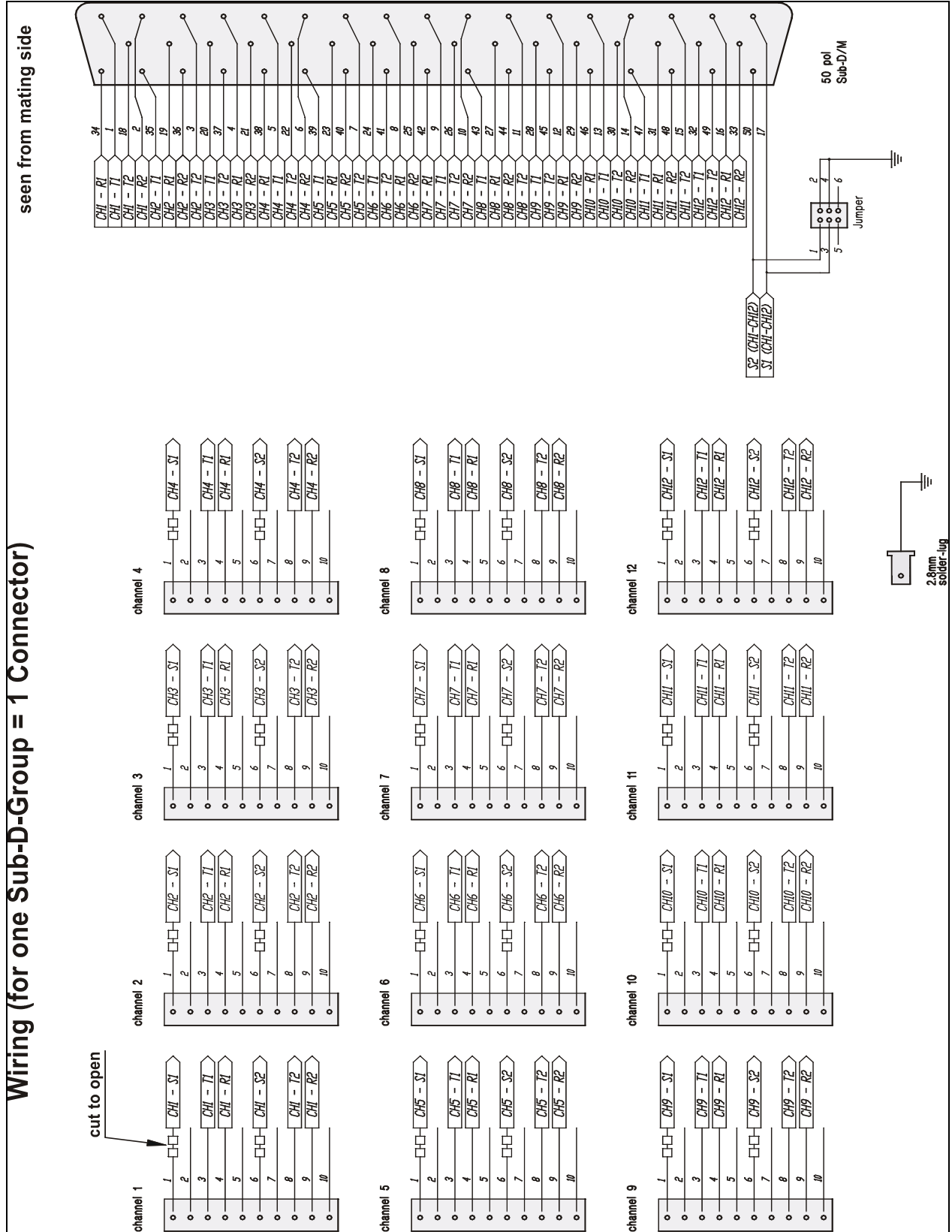
Lifetime:	> 5.000 Insertion / withdrawal cycles
Insertion / Withdrawal force:	< 10 N / > 8 N
Cable retention force:	70 N max per cable retention bar
Dimensions (rack mount):	482 mm (W) $\times$ 44 mm (H) (19" $\times$ 1 U)
Depth:	178 mm (7")
Weight:	2.2 kg
Temperature range:	-30° C to +80° C

### 8.3 Materials

Jack housing:	PA 66 blend
Jack contacts:	CuSn6 – TRIBOR <sup>®</sup> plated (0.2 $\mu$ m AuCo over 2 $\mu$ m NiP)
Casing:	Steel and aluminum, black coated
Front Panel:	AlMgSi 0.5 F22



### 9. Wiring Diagram





### 10. Ordering Information

#### 10.1 Standard supply

The compact Neutrik "Easy Patch" NPPA-TT-SD50 consists of:

- Black coated steel casing with aluminum fittings
- 2 x 48 highly integrated NJ3TTA jacks with gold plated double contacts and specially designed normalling mechanism (standard: half normalised bottom row)
- Integrated internal pre-wiring with selectable flexible grounding system
- 4 x 50 pin D-subminiature terminals
- 1 built-in cable retention bar
- Spare normalling configuration bars
  - 48 Normal 1: "short", bridges 5 contacts
  - 96 Normal 2: "medium", bridges 6 contacts
  - 48 Normal 3: "long", bridges 7 contacts
- 1 Disassembling pliers
- 1 Instruction Manual

#### 10.2 Options and Accessories

Order Information for Pre-configured jack pairs and Accessories:

- NJ3TTA-4-HNB blocks of 2 channels; half normalised bottom row  
cover identification color: clear
- NJ3TTA-4-HNT blocks of 2 channels; half normalised top row  
cover identification color: yellow
- NJ3TTA-4-FN blocks of 2 channels; full normalised  
cover identification colour: green
- NJ3TTA-4-P blocks of 2 channels; parallel  
cover identification color: red
- NJ3TTA-4-I blocks of 2 channels; isolated  
cover identification color: orange
- NPPA-S optional Strain relief bar
- NKTT0x Patch cable (available in different lengths and colours)