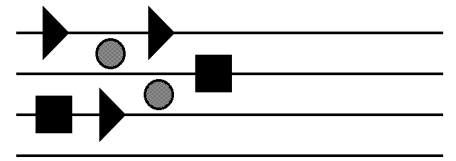


# DN221<sup>V5.4</sup>

Powering for Studio Tube Microphones

## PRODUCT INFORMATION

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The DN221 V5.4 power supply series represents the state of the art in the manufacture of professional-grade powering units for vacuum-tube studio microphones. It is ideally suited for the operation of vintage tube microphones, and even as a reliable substitute for original power supplies still in production.

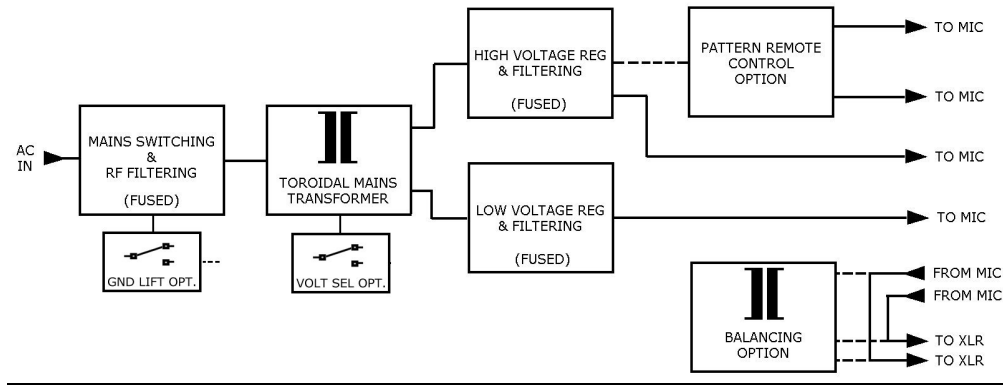
A prestigious clientele worldwide already benefits from the DN221 series' high reliability and operational safety, its rugged design and excellent sonic results – no matter which microphone the unit is used for. All DN221 powering units are precisely aligned to the respective microphone model. Their technical properties are in line with the known stringent standards of German broadcast equipment, both concerning workmanship and the electronic components used.

### General Information

All circuit stages are fused against external overload. The case is permanently protective-grounded. This offers a high degree of safety and reliability in everyday operation, also in case of external faults like cabling issues or microphone failure.

All DN221/DN-RC units are efficiently protected against mains interference and accept even heavy mains voltage swing without affecting signal quality. The generously dimensioned toroidal transformer minimizes heat dissipation as well as interference to neighbouring devices in the studio.

All output voltages are thoroughly stabilized and filtered, thus offering minimum self noise, both in terms of mains ripple and broadband noise.



Block Diagram Series DN221 V5.0

### Mains Voltage

DN221 units can be operated worldwide on mains systems from 90 to 240 VAC. The desired mains voltage is factory-preset on shipping. Conversion to other mains systems can be performed either by us, or on-site by a trained technician. An external voltage selector is available as an option.

### Output Voltages

All output voltages are precisely aligned to the respective microphone model prior to shipping. Thus the microphone is always operated in full compliance with the manufacturer's original specs. For microphones with 'uncommon' power requirements, there are customized versions of the DN221 available. Even if the powering data of e.g. a prototype or modified microphone are unknown, these can be determined by sending us the mic for testing.

DN221 parameter stability and ripple specs usually exceed those of aged original power supplies by far.

### Mains Connection

is established via a 3-pin IEC/CEE connector. Mains cords complying with this standard are easily available worldwide, e.g. for home computer application.

The mains system must provide protective earth (PE), which is not internally combined with signal ground in order to avoid grounding problems. If electrically required, this connection can easily be added by a wire bridge inside the microphone cable connector.

### Microphone Connection

The microphone is connected via a thread-locked Minituchel socket, compatible with the vast majority of small vintage tube microphones. Optionally, DN221 units can also be shipped with user-specific socket types. New studio-grade microphone cables in many configurations can be ordered along with the unit.

### Outputs

Signal output is fitted with a standard three-pin XLR terminal wired after AES/EBU recommendations. Electrical characteristics of the output equal those of the microphone, except for the DN221-T version, which is equipped with a high-quality audio transformer for unbalanced microphones.

## OPTIONS

In general, *any* tube microphone model can be operated with a DN221 power supply. The following versions will already cover about 99% of tube microphones currently in use:

### DN221 / 221-E

Basic version for most small- and large-diaphragm tube microphones with fixed pattern

### DN221-E67

With custom large Tuchel socket, for use with Neumann U67 & original cable

### DN221-C

For Schoeps CM6x series

### DN221-VR

For Neumann U47/U48 fitted with original tube (VF14)

### DN221-T

For measuring microphones in recording use and microphones with unbalanced output. With high-quality balancing transformer, suitable also for AKG C60 and Sony C37 e.g.

### DN221-M

as above, quasi-balanced transformerless design with improved THD and frequency response

### DN221-R

For microphones with remote-controllable directional pattern. With nine-step rotary switch or conductive plastic potentiometer. For Neumann SM269c / M49 / AKG C12 / C12A and many more

### DN-RC

Dual-channel unit for *stereo* microphones with pattern remote control. Available for tube and FET microphones like Neumann SM2 / SM23 / SM69 / SM69FET / AKG C24 / C422 / C426...

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## Technical Specifications

Mains:	100 to 240V~ factory-preset, 50/60Hz, 6W max.
Voltage tolerance:	+5% / -20% typ.
Operation environment:	0...50°C, dry environments
Mains connection:	IEC-CEE, third-wire protective earth
Microphone connection:	Tuchel compatible or on request
Signal outputs:	XLR 3-pin, according to AES/EBU
Case:	extruded aluminium, anodized
Dimensions:	165 x 80 x 110 mm
Weight:	1.4 kg approx.
CE conformity:	EG-Niederspannungsrichtlinie 73/23/EWG, Anhang I DIN EN 50081-1:1992

dre 3/2015 – Technical improvements reserved

