

# FlexLink K7-Pro Switch Matrix

## Extended L-Band Matrix 8:8...64:64, expandable to 256:256

### GENERAL

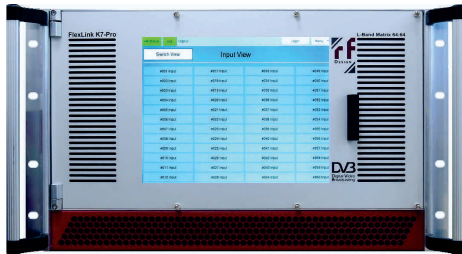
The “**FlexLink K7-Pro**” represents a unique, innovative & clever L-Band Switch Matrix system, built into a 6RU/19" rack-mount chassis with only 500mm depth. It performs as a scalable distributive switch/routing platform allowing to switch/route any selected input to any or all outputs and can be assembled with various input/output configurations from 8:8 to 64:64 in one matrix chassis and to up to 256:256 (symmetrical & unsymmetrical) with additional matrix chassis and corresponding I/O switch-boards, while the modular concept also allows other symmetrical and unsymmetrical input/output configurations (increments of 8).

The “**FlexLink K7-Pro**” is future proof coming with widened bandwidth of 850...2450MHz supporting the extended L-Band (850 - 2450MHz) and L-Band (950 - 2150MHz) frequency ranges making it a perfect solution also for KA-Band and HTS applications.

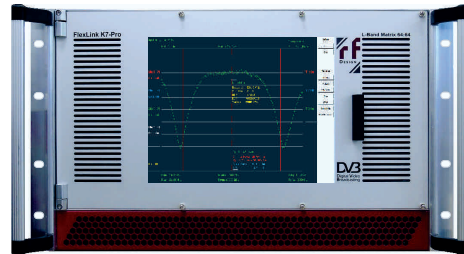
This scalable Switch Matrix system offers a maximum in flexibility combined with state-of-the-art functionalities, features, excellent RF performance and various options. All matrix switch-boards are hot-swappable while each I/O switch-board is equipped with cascading-interfaces allowing to expand an existing system without the need of any other additional devices. This unique expansion concept results in less space requirement, reduced power consumption and avoids additional point of failures.

The flexible modular design makes it possible to mix the input and output connectors with various connector types (50Ohm SMA or BNC, 75Ohm F or BNC as well as optical inputs) giving the operator the flexibility for future expansions.

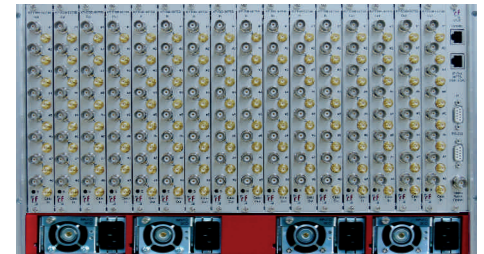
### UNIQUE



### INNOVATIVE



### CLEVER



The “**FlexLink K7 Pro**” features variable gain-control & slope-equalization, RF power monitoring as well as a rear-side 10MHz reference signal port. Furthermore it supports status monitoring of all active components and comes with 1:1 redundant dual power-supply (hot swappable).

Additional flexibility is being provided via available options like switchable LNB-supply, individually selectable and configurable for each input.

A very special and unique optional feature is the “**K7SQA Signal Quality Analyzer**” tool. It is an add-on Spectrum-Analyzer/DVB demodulator board allowing measurement and monitoring of RF and DVB-S/S2 parameters (any input & output of the matrix). At the RF section it measures parameters like RF power and C/N while at the DVB section (DVB-S/S2) it monitors channel power, MER, BER, frequency drift, symbolrate drift, Network-ID, Service-ID, Service-Type and and more. Furthermore it completely scans all inputs and outputs and its transponders. It is equipped with an RJ45/100MBit interface allowing IP output streaming (MPTS).

Beyond its state-of-the-art and unique mechanical concept, the functionalities, features and options the “**FlexLink K7-Pro**” also assures superior and stable RF performance at the highest quality level, especially at Isolation and Frequency Response.

The “**FlexLink K7-Pro**” matrix system can be configured and monitored locally via its front-side 10.4" colored touchscreen. Remote configuration can be done via an Ethernet-Interface (WebGUI/SNMP). RF-Design's local and remote configuration platform for the “**FlexLink K7-Pro**” allows the configuration of all relevant matrix settings including routing/switching settings, crosspoint-locking, signal-path backup routing with reverse switch-back, double back-up storage of all settings/configurations, variable gain control, slope-equalization and of course all available options (if activated). The configuration software also supports user administration management and user rights assignment, logbook function, storage functions and various parameter monitoring functions for critical RF values but also for each individual switch-board, power-supplies and ventilators.

The “**FlexLink K7-Pro**” is ideal for flexible signal assignment and perfectly suited for RF distribution applications in Teleports, Satellite Earth Stations as well as Broadcast and CATV/IPTV headend operations.

# FlexLink K7-Pro Switch Matrix

Extended-L-Band Matrix 8:8...64:64 expandable to 256:256

**DVB-S2**

Made  
in  
Germany

## FEATURES & BENEFITS

### Conceptional features

- Space saving 6RU/19" modular rack-mount design, 500mm deep
- Extended L-Band frequency 850...2450MHz ready for KA-Band and HTS applications
- Up to 64:64 inputs/outputs within one chassis, expansion e.g. to 256:256 possible (symmetrical/unsymmetrical, increments of 8)
- Easy expandable via integrated cascade ports (increments of 8)
- Coax inputs & outputs 50/75Ohm SMA(f), F(f) or BNC(f) or optical inputs (supports mixed input & output configuratin)
- 10MHz reference signal port (rear side)\*
- Beneficial options such as LNB-supply and RF/DVB monitoring
- Hot-swappable matrix switch-boards
- 10.4" front-side touchscreen LC-Display for local configuration
- 100MBit Ethernet-Interface for remote configuration (WEB-GUI/SNMPv2c)
- 1:1 redundant dual power-supply (hot-swappable)

### Hardware & RF features

- Variable gain control/adjustment (@ any input)
- Slope-equalization (@ any input)
- RF power monitoring, dynamic range (@ any input/output)
- Internal monitoring of all active components
- Input connectors available as 50Ohm SMA or BNC, 75Ohm F or BNC or Optical-inputs 1310 - 1550nm (increments of 8)
- Output connectors available as 50Ohm SMA or BNC, 75Ohm F or BNC (increments of 8)
- Superior RF performance especially @ Isolation and Frequency Response

### Software & configuration features

- Supports local and remote configuration for all relevant settings and adjustments
- Local configuration via 10.4" colored touchscreen LC-Display
- Remote configuration via 100MBit Ethernet-Interface and RS232 (WebGUI, SNMPv2c)
- User administration with user rights management
- Features crosspoint/routing locking for individual users
- Signal-path backup routing with reverse switch-back
- Features logbook and storage function
- Various parameter monitoring & error diagnosis functions for critical RF values, all switch-boards, psu 's and ventilators
- Save operation via double back-up storage for all settings

### CHOICE OF OPTIONS

- Switchable LNB-supply 13/15/18V, 22kHz (@ any input), current monitoring 400mA with extra 1:1 redundant power-supply (individually selectable for all matrix inputs)\*
- FlexLink K7 SQA Signal Quality Analyzer board, RF & DVB-S/S2 measurement and monitoring of all matrix inputs & outputs

### K7 SQA SIGNAL QUALITY ANALYZER FEATURES

- RF & DVB-S/S2 measurement & monitoring (for any input and output of the matrix system)
- RF parameter measurement such as RF power, C/N, bandwidth
- DVB-S/S2 parameter monitoring such as frequency & channel power, MER, BER, frequency drift, symbolrate drift, Network-ID, TS-ID, Service-Type and Service-provider
- Supports a complete scan of all inputs and outputs and its transponders
- Spectrum analysis of one or more transponders remotely via Ethernet-Interface with CMS
- IP streaming output of the configured transponder (MPTS) via additional RJ45/100MBit interface
- Ideal for flexible analysis of RF/DVB-S2 signals and parameters

### TECHNICAL SPECIFICATIONS

- **Dimensions:** 6RU/19", 500mm deep
- **Configuration variants:** 8:8 to 64:64 (6RU/19") expandable to e.g 256:256 in increments of 8
- **Power supply:** 85...230V, 50/60Hz (1:1 redundant, hot-swapp)
- **Power consumption:** < 200W (@ 64:64 configuration)
- **Frequency range:** 850...2450MHz (Extended L-Band)
- **Available I/O connectors:** 50Ohm SMA(f) or 50Ohm BNC(f) 75 Ohm F(f) or 75Ohm BNC(f)
- **Optical input connectors:** SC/APC, 1310...1560nm
- **IMA3 @ -10dBm:** < -53dBc
- **Output Comp. Point 1dB:** +6dBm
- **Noise Figure:** <14dB
- **Variable gain-control:** -20dB...+10dB (1dB steps)
- **Slope equalization:** 0...9dB
- **10MHz reference\*:** Rear side, 50Ohm SMA(f)\*
- **RF power monitoring:** 70dB dynamic range
- **Frequency Response:** ± 2dB typ, ±3dB max. (@ L-Band) ± 3dB typ, ±4dB max. (@ Extended L-Band) ± 0,25dB max. (@ 36MHz channel)
- **In-/Output Return Loss:** 14dB typ.
- **Isolation:** ≥60dB typ. (In/Out, In/In, Out/Out)
- **Local configuration:** 10.4" Touch-screen LC-Display
- **Remote configuration:** RJ45 100MBit Ethernet (WebGUI, SNMPv2c)
- **Serial Interface:** RS-232 (upon request)
- **Operating temperature:** 0°C...+45°C
- **Storage temperature:** -10°C...+65°C
- **Humidity:** 90% non condensing

### OPTIONS

- **Switchable LNB-supply\*:** 13/15/18V, 22kHz, (@ any input)\* 400mA current monitoring\*
- **FlexLink-K7 SQA:** Signal Quality Analyzer (RF & DVB-S/S2 monitoring)

\*not operating when unit is equipped with optical inputs

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