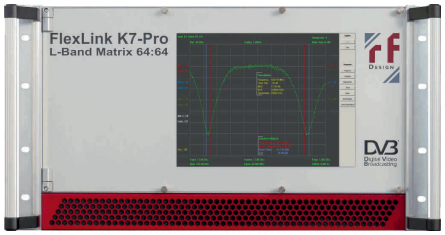
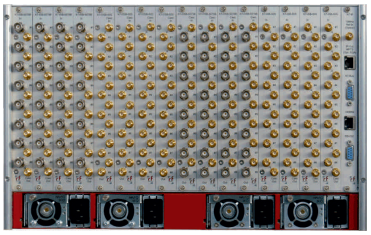
# FlexLink-K7-Pro

## L-Band Matrix Switch, 8:8 | 64:64 | 256:256

**UNIQUE** **INNOVATIVE** **CLEVER**

### GENERAL

The new **"FlexLink-K7-Pro"** is an unique, innovative and fully scalable L-Band Switch-Matrix system, built into a space-saving 6RU/19" rack-mount chassis with only 500mm depth easy to integrate into any standard 19" cabinet. It performs as a scalable L-Band switch/routing platform allowing to switch/route any selected input to any or all outputs while it can be assembled with various input/output configurations from 8:8 to 64:64 inputs/outputs in one main-chassis and to up to 256:256 inputs/outputs with additional slave-chassis while the modular and scalable concept also allows other input/output configurations as per the user´s requirements (increments of 8).

The **"FlexLink-K7-Pro"** covers the L-Band frequency range (950...2150MHz) and is designed for today´s and future signal management requirements offering a maximum in flexibility combined with state-of-the-art functionalities, features, excellent RF performance and various options. All matrix boards (center, input, output) are hot-swappable while the input and output switch-boards are equipped with cascading-interfaces allowing to expand an existing system without the need of any other additional devices. This unique expansion concept requires less space, reduces 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 & BNC, 75Ohm F & BNC as well as optical inputs E2000 or SC/APC) giving the operator the flexibility he requires now and in the future.

The **"FlexLink-K7-Pro"** provides various features and functionalities such as variable gain-control & slope-equalization, RF power monitoring and internal monitoring of the amplifier-components. Furthermore the **"FlexLink-K7-Pro"** provides 1:1 redundant dual power-supplies and internal airflow ventilators.

Additional flexibility is being provided by various available options like switchable LNB-supply 13/15/18V, 22kHz with 450mA current monitoring while this option also features the possibility to insert an external 10Mhz signal . All inputs can be individually selected and configured with/without having LNB-supply and/or 10Mhz feed locally via touchscreen and remotely via WEB-GUI.

A very special and unique optional feature is the "K7SQA Signal Quality Analyzer" tool which represents an add-on spectrum-analyzer/DVB demodulator board. It allows measurement and monitoring of relevant RF and DVB-S/S2 parameters (for any input & output of the matrix). At the RF section it measures and monitors parameters like RF-power and C/N. At the DVB section (DVB-S/S2) it measures and monitors channel-power, MER, BER, frequency-drift, symbolrate-drift, Network-ID, Service-ID, Service-Type and Service provider name. Furthermore it completely scans all inputs and outputs and its transponders. This option is equipped with an RJ45/100MBit interface for IP output streaming (MPTS) of the configured transponder.

Beyond the state-of-the-art and unique mechanical concept, ist functionalities, features and its 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 accessed, configured and monitored locally via its front-side 10.4" colored touchscreen LC-Display. Remote configuration can be done over its rear-side ethernet-interface (WEB-GUI/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, variable gain-control, slope-equalization and of course all available options such as LNB-supply, 10MHz feed and the K7SQA Signal Quality Analyzer (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 architectures.

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RF DESIGN

# FlexLink-K7-Pro

## L-Band Matrix Switch, 8:8 | 64:64 | 256:256

## FEATURES & BENEFITS

### Conceptional features

- Space saving 6RU/19" modular rack-mount design, 500mm deep
- Up to 64:64 inputs/outputs within main-chassis, further expansion e.g. to 256:256 via slave-chassis and further switch-boards
- Easy expandable via integrated cascade-ports (increments of 8)
- Coax inputs & outputs 50/75Ohm SMA(f), F(f) or BNC(f) and optical inputs possible, supports mixed input & output configurat.
- Hot-swappable matrix switch-boards
- 10.4" front-side touchscreen LC-Display for local configuration
- 100MBit Ethernet-Interface for remote configuration (WEB-GUI/SNMPv2c)
- Temperature controlled ventilators (hot-swappable)
- 1:1 redundant dual power-supply for the matrix (hot-swappable)
- 1:1 redundant dual power-supply for the LNB-supply (option) (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 amplifier components (with error diagnosis)
- 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 front-side 10.4" colored touchscreen LC-Display
- Remote configuration via 100MBit Ethernet-Interface and Rs232 (WEB-GUI, SNMPv2c)
- User administration with user rights management
- Features crosspoint/routing locking for individual users
- Supports signal-path backup routing
- Features logbook and storage function
- Various parameter monitoring & error diagnosis functions for critical RF values, all switch-boards, psu´s and ventilators

## CHOICE OF OPTIONS

- Switchable LNB-supply 13/15/18V, 22kHz, current monitoring 450mA (@ any input) with extra 1:1 redundant power-supply
- 10MHz feed, external (@ any input)
- K7SQA-16 Signal Quality Analyzer board, for measurement and monitoring (RF, DVB-S/S2) for all matrix inputs & outputs

## FEATURES & BENEFITS

### K7SQA-16 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
- Determining different parameters of predefined transponders (scheduler)
- Spectrum analysis of one/more transponders remotely via Ethernet-Interface
- IP streaming-output of the configured transponder (MPTS) via additional RJ45/100MBit interface

## TECHNICAL SPECIFICATIONS

| | |
|---|---|
| **Dimensions:** | 6RU/19", 500mm deep (Master/Slave) |
| **Configurat. variants:** | 8:8 to 64:64 (6RU/19") expandable to e.g 256:256 in increments of 8 |
| **Power supply:** | 85...230V, 50/60Hz<br>1:1 redundant (hot-swappable) |
| **Power consumption:** | < 200W (@ 64:64 configuration) |
| **Frequency range:** | 950...2150MHz (L-Band) |
| **IMA3 @ -10dBm:** | < -60dBc |
| **Input P1dBc (IP1):** | +6dBm |
| **Noise Figure:** | 18dB |
| **Variable gain-control:** | -15dB...+15dB |
| **Slope equalization:** | 0...9dB |
| **RF power monitoring:** | 70dB dynamic range |
| **Frequency Response:** | ± 3dB typ. full band<br>± 0,25dB max. (40MHz window) |
| **Isolation:** | ≥60dB (all ports), 70dB typ. |
| **Return Loss:** | 14dB min., 16dB typ. (input/output) |
| **In- & Output connectors** | 50Ohm SMA(f) or 50Ohm BNC(f)<br>75 Ohm F(f) or 75Ohm BNC(f) |
| **Optical fiber connectors:** | E2000 or SC/APC* (input only)<br>(1310...1560nm) **upon request* |
| **Local access/control:** | 10.4" Touch-screen LC-Display |
| **Remote access/control:** | Ethernet (Web/http, SNMPv2c) |
| **Serial Interface:** | RS-232 |
| **Environmental conditons:** | |
| **Operating Temp.:** | 00°C...+45°C |
| **Storage Temp.:** | -10°C...+70°C |
| **Humidity:** | 90% non condensing |

**OPTIONS**

| | |
|---|---|
| **Switchable LNB-supply:** | 13/15/18V, 22kHz, (@ any input)<br>450mA current monitoring,<br>including 10MHz feed, rear-side,<br>50OHm SMA(f) connector |
| **K7SQA-16:** | Signal Quality Analyzer<br>(RF & DVB-S/S2 monitoring) |




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