

**The BLANKOM – Optical SAT-IF-Distribution System PART 2:  
1 Single-Mode Fibre used with wavelength multiplexing/de-multiplexing units:**

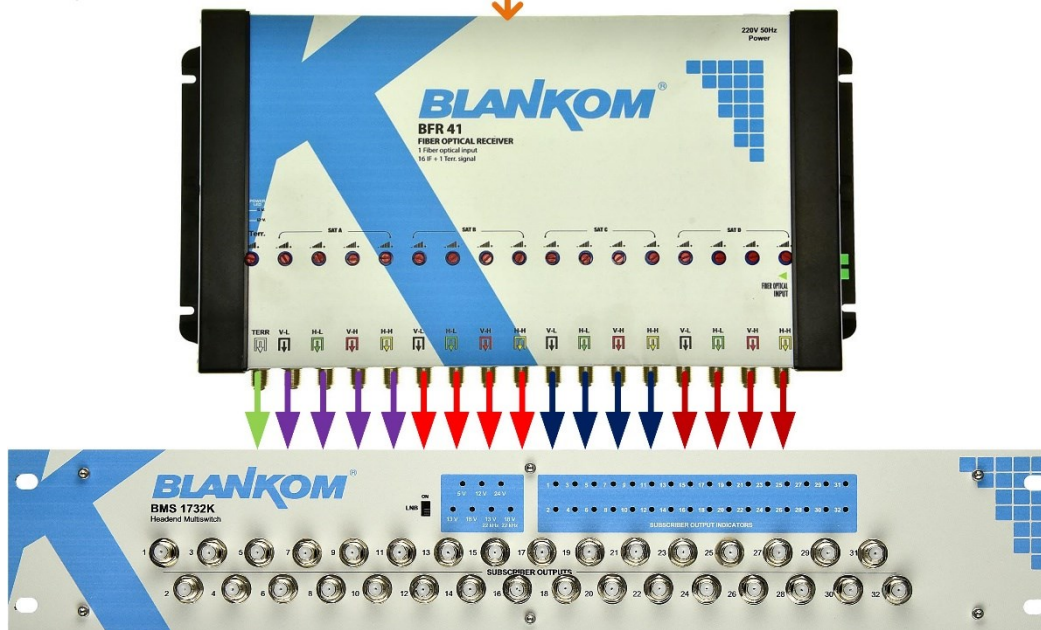
The BLANKOM- 1 Fiber SATellite IF distribution Solution consist of 2 mayor devices:  
The Transmitter: BPF-41-4 AGC (available in different versions and output power values) and the Receiver BFR-41 (also available in different housings), the wavelength demultiplexer and optical/electrical converter to receive your former Multiplexed wavelength into 1 fibre and demultiplex them into their original 4 SAT-band's (17 wavelength incl. terrestrial if in use).  
Of course in between an optical splitting can be installed to serve many of the optical receivers in different campus areas or buildings/condos.

**4 SAT-Positions with standard LNB's**



**1 Fibre optical distribution with a maximal distance of several km: BPF 41-4 AGC (Automatic Gain Control)**

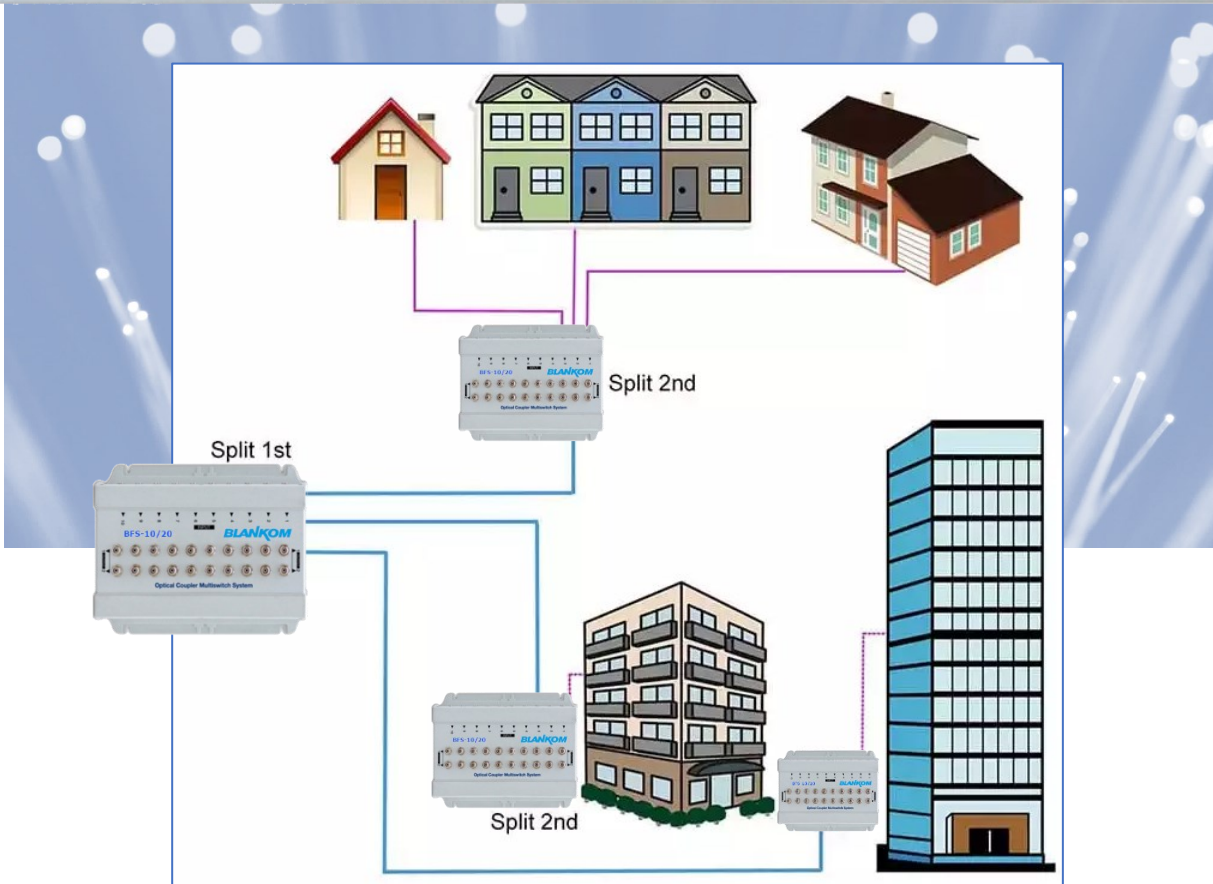
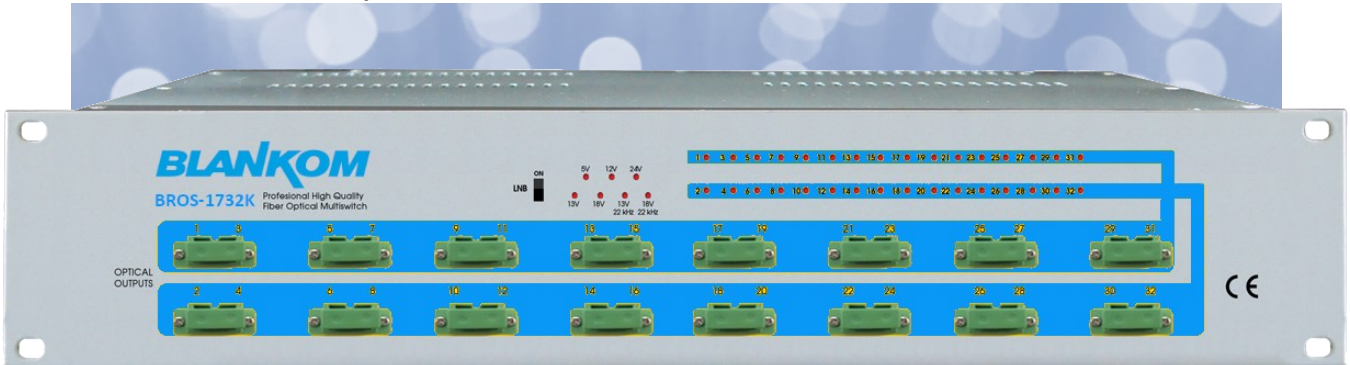
**BFR-41: 1-Fiber Receiver**  
Optical electrical converter



The advantages against integrated LNB-Fiber solution systems is simple: You can use any standard QUAD-Quattro-LNBs (or different types of single dual-LNB-combinations) depending on your case also up to SMW high class professional types.

**BROS-1732K : coming soon...**

**FTTH Fiber Optic Multiswitch 4 SAT + direct RF to Wall outlets in the flats/condos/rooms**



**Note:** These 1-fiber Optical Transmitter/Receiver Series is available as 1 SAT (4+1) to 2 SAT (8+1) 3 SAT and this 4 SAT (17) Input solutions. If you need a different than our flagship for 4 SAT-Pos (+1x Terr), please ask us.

**Example Installation with 4 different SAT-Positions** with all 4 LNB's installed to a Toroid-90cm multifeed Dish:

- SAT A = ASTRA 19.2°E
- SAT-B = Hotbird 13°E
- SAT-C = Astra 28°E
- SAT-D = Eutelsat 10°E



Because the different LNB's and SAT-positions giving different quality and strength according to their distances and positions we prefer to use the AGC-Version of the Transmitter which adjusts automatically the different SAT-IF reception levels to an almost common output level on the Fibre



*Transmitter -Rear – view*

In this example we use only a short 25m SC/APC Mono-Mode-fiber, we need attenuation of the 'optic' way to not overload the receiver's Laser-diodes and accidentally destroy them. If you do not have any optical power meters at hand, we recommend to use highest Attenuation and step by step check the reception levels at the Optical receiver.

We recommend Promax Measurement Units with integrated fiber port.

The front – LCD of the Transmitter gives a lot of information's operated by the keypad Menu:



Like the SAT-Input values as well as the Laser-power adjusted automatically for every of the RF-17 Inputs:



Some are for changing particular values like LNB-Voltage turn ON or OFF and some are informal only:



The operation is nearly self-explaining and not very complicated and because of the AGC, it does not need any adjustments as long as the IF-Inputs are in a reasonable range.

### Technical data / Transmitter:

- AGC (Automatic gain control).
- Max. 90db entry level. Min. 65db.
- 4 mw (6 dbm) optical output power.
- Max. optical signal splitting should not exceed by 32, 1270-1570/1610nm working range.
- Modular system as plug-in - flexible designed if maintenance needed
- Thanks to independent modules each other has max. isolation values
- LED indicator for each LNB polarity at the rear
- Short circuit protection for LNB input
- Quad and Quattro LNB support. Dual power supply 220V AC input
- Automatic power selection
- Automatic fan control circuit with double fans



<b>Input</b>	<b>17 F Connectors (16IF+1RF) (75 Ohm)</b>
<b>Optical system CWDM</b>	<b>1270-1570nm standard wavelength</b>
<b>Output</b>	<b>1 SC/APC (Full Band) Optical Connector</b>
<b>Optical Wavelength</b>	<b>1270... 1610nm* (CWDM)</b>
<b>TERR Frequency Range</b>	<b>47-870MHZ</b>
<b>Satellite Frequency Range</b>	<b>950-2150MHZ</b>
<b>Isolation SAT-SAT</b>	<b>&gt; 35dB</b>
<b>Auto Gain Adjustment</b>	<b>AGC Level 25dB ± 1</b>
<b>Optical Wavelength Width</b>	<b>1270-1570 nm (CWDM)</b>
<b>Max. Terr Signal Input</b>	<b>90 dB ± 5</b>
<b>Max. Sat Signal Input</b>	<b>65dB-95dB ± 5</b>
<b>Optical Output Power</b>	<b>4 mW (6dBm)</b>
<b>Power Supply</b>	<b>220 VAC 50 Hz</b>
<b>Operating Temperature</b>	<b>-15 +40 °C</b>
<b>Dimensions</b>	<b>485x385x90mm (3RU 19'')</b>
<b>Weight</b>	<b>Ca. 3500 gr</b>

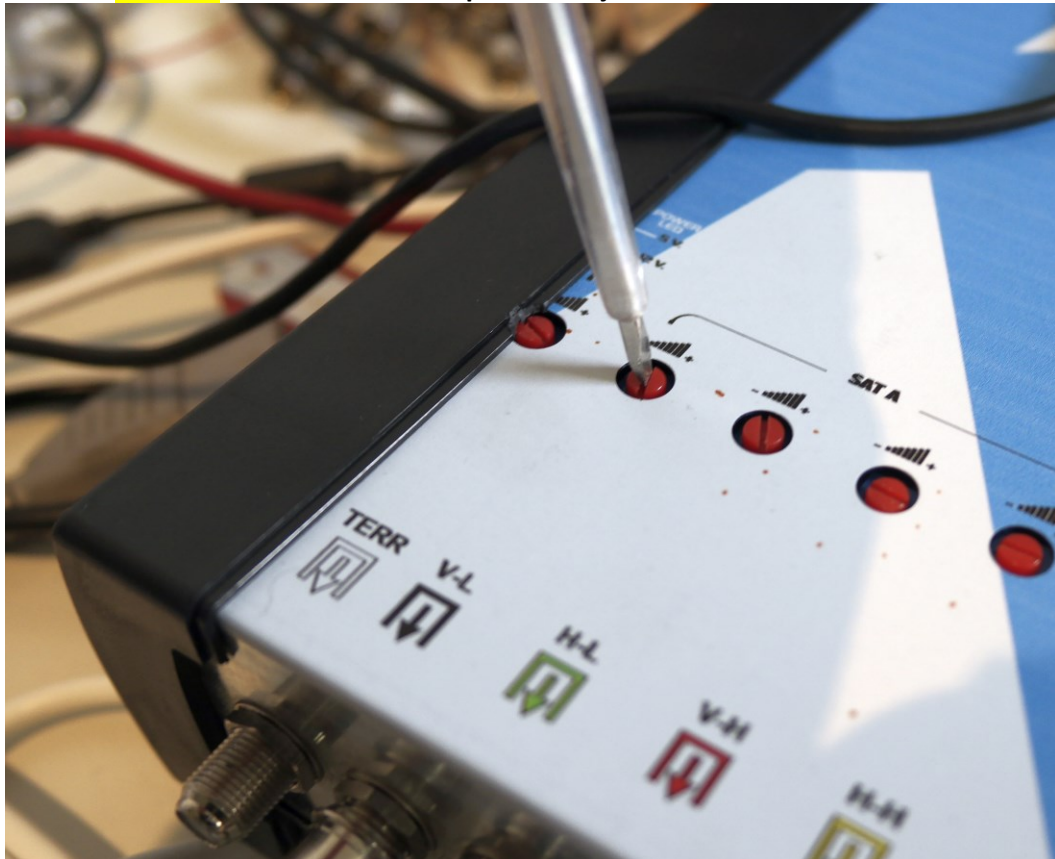
### Technical data / Receiver:

One core single mode optical Multiswitch system for up to 4 SAT-positions incl. Terrestrial pathway.  
 Optical receiver and Multiswitch in one box only  
 Gain adjustment for each input by spindle-trimmer  
 Voltage LED indicators  
 High isolation / compact / plug and play  
 High performance special power supply

<b>INPUT :</b>	<b>1 SC/APC (Full Band) Optical Connector</b>
<b>Outputs :</b>	<b>17 F Connectors (16xIF+1xRF, 75Ohm)</b>
<b>Frequency Range TERR</b>	<b>47-870MHZ</b>
<b>Frequency Range SAT :</b>	<b>950-2150MHZ</b>
<b>Optical wavelength :</b>	<b>1270... 1610nm (CWDM)</b>
<b>Terr Gain (DVB-C / DVB-T) :</b>	<b>Max. 33 dB ± 1</b>
<b>Gain Adjustment :</b>	<b>0...20dB</b>
<b>SAT Gain :</b>	<b>26 dB ± 1</b>
<b>Max. optical input power :</b>	<b>2 mW</b>
<b>Isolation SAT-SAT :</b>	<b>&gt;35dB</b>
<b>Isolation SAT-TERR :</b>	<b>&gt;40dB</b>
<b>Internal Power Supply :</b>	<b>220V AC to 12V-5V 3000mA / 18 W</b>
<b>Temperature range:</b>	<b>-25+50°C</b>
<b>Dimensions :</b>	<b>310x235x58 mm</b>
<b>Weight :</b>	<b>900 gr.</b>

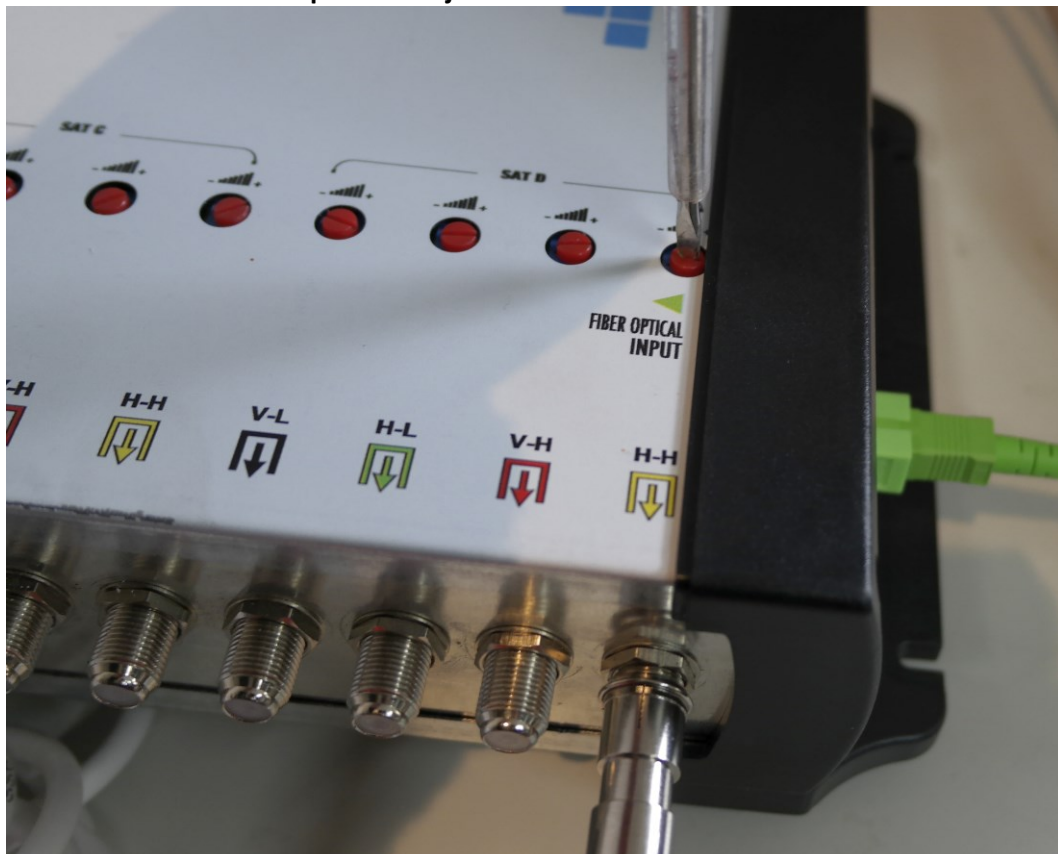
All technical Data are subject to changes w/o any notifications and depending on model-types and manufacturing parts/dates.

Optical- 1 fiber Receiver SAT-A-Vertical Low position adjustment:

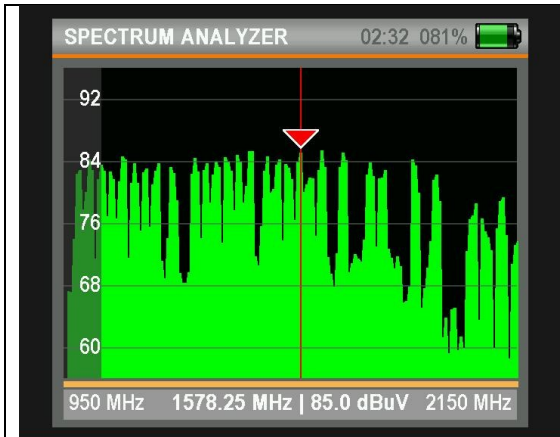


*BTW: The optical Receiver does not care whether your Multiswitch has LNB-Power set to ON or OFF.*

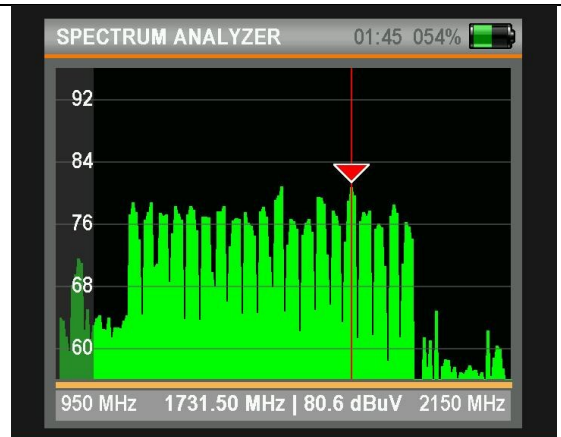
Optical- 1 fiber Receiver SAT-D position adjustment:



We use only these 2 positions/bands SAT-A and SAT-D here as examples because all 16 SAT would be too much here...



For comparing: Input from **SAT-A VL** LNB at the Fiber-Transmitter



Input **SAT-D HH** measured direct from LNB at the Transmitter Input

**Output from Fiber Receiver SAT-A VL:**

SATELLITEN SUCHE 02:47 088%

SAT 1. Astra 1KR/L/M/N (19.2) **DVB S2**

TP 2. 11288-VL-22000 **ASTRA 1**

LNB 1. UNIVERSAL 13V-0KHz

DISEQC DiSEqC 1.0 - PORT A

SIGNAL 86

QUALIT. 70

PEGEL 81.6 dBuV **bBER** 2.3E-02

MER 10.6 dB **aBER** <1.00E-7

<>:TP ändern | LEVEL:Bericht | LIST:Ch.List

**Output from Fiber Receiver SAT-D HH:**

SPECTRUM ANALYZER 02:34 082%

SATELLIT 4. Eutelsat 10A (10°E)

TP 4. 12509-HH-02667

NETZWERK Beladi Satellit

LNB 1. UNIVERSAL

PEGEL AUTO

DISEQC DiSEqC 1.0

PORT PORT D

Drücken Sie 'OK' zum Starten

SPECTRUM ANALYZER 02:39 085%

SATELLIT 1. Astra 1KR/L/M/N (19.2°)

TP 2. 11288-VL-22000

NETZWERK RAI

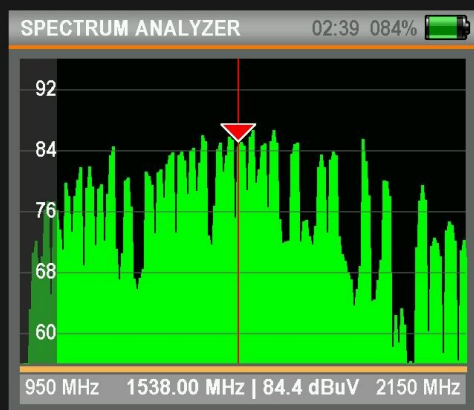
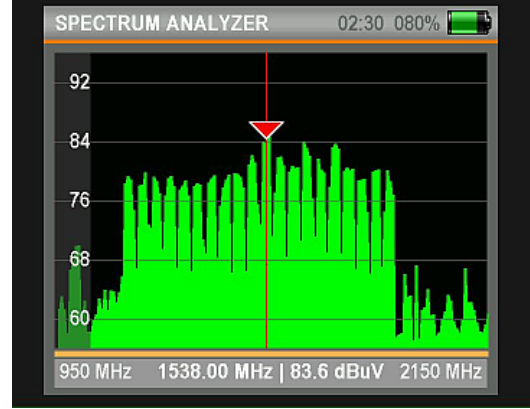
LNB 1. UNIVERSAL

PEGEL AUTO

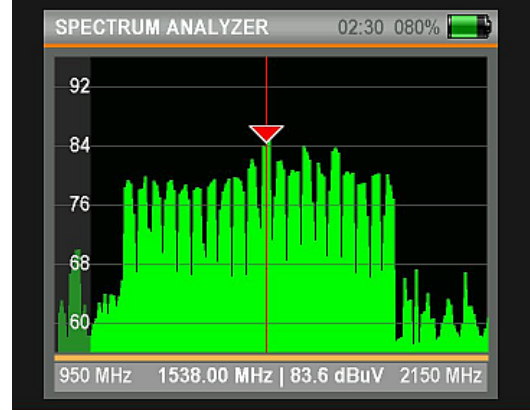
DISEQC DiSEqC 1.0

PORT PORT A

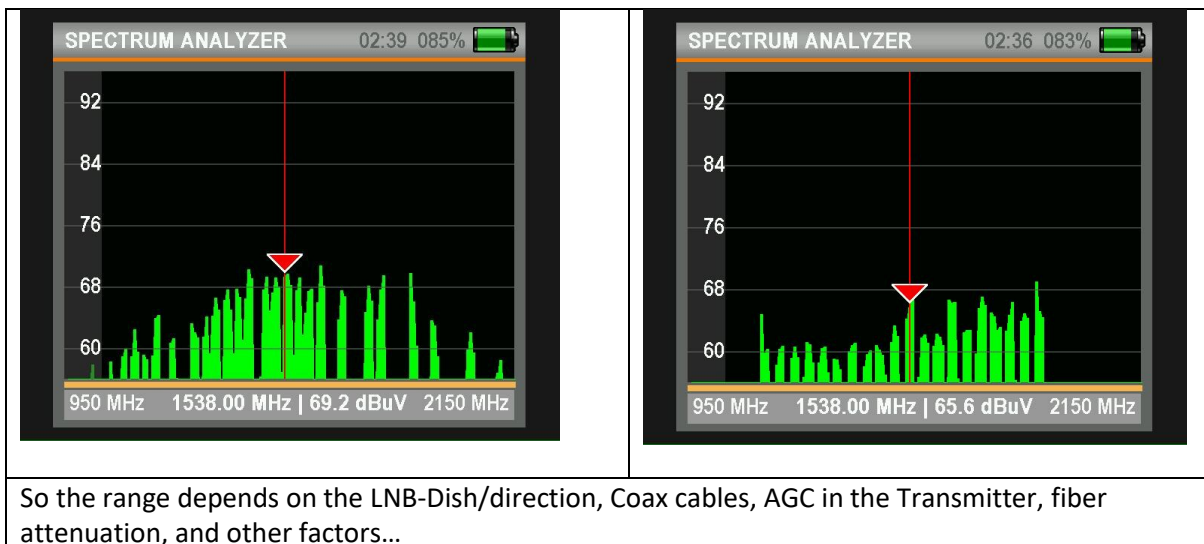
Drücken Sie 'OK' zum Starten



Maximum and Minimum (Attenuation by Poti)  
Here approximately 15 dB is the range you can adjust



Poti for SAT-D HH was already on Maximum  
Here max. attenuation adjusted is 18dB



So you see, the installation and adjustment of the optical couple of Transmitter BPF and Receiver BFR is almost a piece of cake. But we recommend to have some measurement instruments by hand.

**Any questions: [info @ blankom.de](mailto:info@blankom.de)**