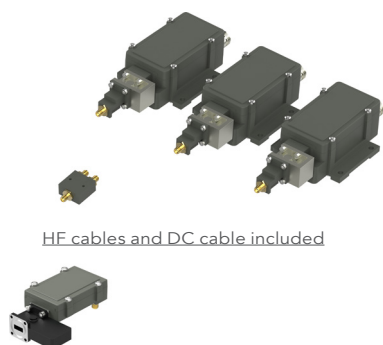


# Triple PLL System

Receives three Ka-Bands simultaneously



HF cables and DC cable included



The Ka-Band Triple Systems consists of Ka LNA Wideband with Waveguide Isolator, Ka Splitter, Ka BDC's with Waveguide Isolators and matched Ka Cables. Comes standard with Low Phase Noise to meet DVB-S2X Professional Services Profile.

Options include customized LO, customized frequency ranges, customized gain, separate DC power input and separate input for the external 10 MHz reference.

## Features

- **NEW!** Optional Alarm output and M&C interface
- Auto switching LO ref: Internal / Ext. 10 MHz
- Wide frequency range
- Low Phase Noise
- High P1dB and IP3
- Wide operating temperature range

## TECHNICAL SPECIFICATIONS

MODEL:	Triple Band System 17.70 - 21.30 GHz		
Input Frequency	17.70 - 18.90 GHz	18.90 - 20.10 GHz	20.10 - 21.30 GHz
LO Frequency	16.75 GHz	17.95 GHz	19.15 GHz
Output Frequency	950 - 2150 MHz	950 - 2150 MHz	950 - 2150 MHz
Gain	60 dB typ. (55 dB min.)		
Flatness	±0.4 dB max. within 30 MHz, ±2 dB max. over each band		
Noise Figure / Noise Temperature	1.8 dB / 149 K typ.		
Phase Noise	-40 dBc @ 10 Hz -65 dBc @ 100 Hz -85 dBc @ 1 kHz -90 dBc @ 10 kHz -95 dBc @ 100 kHz -112 dBc @ ≥1 MHz typ.		
Image Rejection	30 dB min.		
Output P1dB	+15 dBm typ.		
Output IP3	+25 dBm typ.		
Output VSWR	1.7:1 typ.		
Output Connector	F-type 75Ω / N-type 50Ω / SMA-type 50Ω		
Input LNA	Waveguide WR 42 / R 220. Flange PBR 220.		
Input BDC	SMA-type 50Ω		
Input VSWR LNA	1.35:1 max. with Low Loss Isolator (included)		
LO Leakage	-60 dBm @ RF input		
LO reference	Auto switch External/Internal		
External 10 MHz Ref.	Sine Wave, Level: -10 to +10 dBm. Supplied through output connector.		
DC Input BDC	nom. +12 to +24 V, Supplied through output connector		
Power BDC	5 W typ.		
Dimensions BDC	178 x 80 x 46 mm (F- & SMA-connector), 184 x 80 x 46 mm (N-connector), for drawing, see <a href="http://www.smw.se">www.smw.se</a>		
Weight BDC	399 g (F- & SMA-connector), 418 g (N-connector)		
DC Input LNA	nom. +12 to +24 V / 110 mA typ. Supplied through separate SMA connector (bottom side)		
Power LNA	1.32 W @ 12VDC, 2.64 W @ 24VDC typ.		
Dimensions LNA	103 x 63 x 34 mm inclusive isolator, for drawing, see <a href="http://www.smw.se">www.smw.se</a>		
Weight LNA	160 g, inclusive isolator		
Temperature Range	Storage and operating: - 40° to + 80° C		
Optional Alarm BDC	Interface: Separate M8-connector (B), Open collector, Open on fault, 3.3 to 24 V, max. 200 mA Available Alarms: LO not locked, Total current consumption, Power detector outside limits, RF level outside limits		
Optional M&C BDC	Via MODBUS RTU RS485 electrical interface, see sep. document for details. NOTE! Mates with M8 male connector. Cable: shielded min. CAT 5		
Options	Customized LO frequencies, input and IF ranges, gain and variation, separate 10 MHz ref. input., Pressurizable(LNA)		

SEE THE RF OVER FIBER AND L-BAND SECTIONS FOR OUTPUT OPTIONS

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Above parameters are generic product family values. For part number specific min./max. values, please consult us.

Specifications are subject to change without notice. Products from Swedish Microwave AB are made for commercial use.

# Triple PLL System cont.



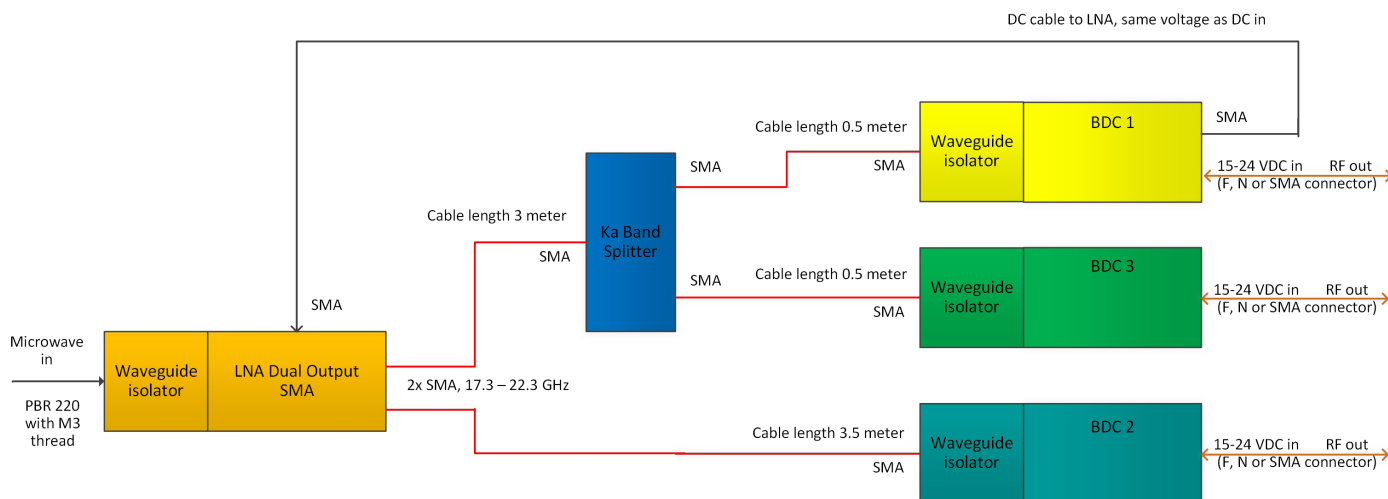
Example Ka-Band Triple System configurations					
P/N (x = connector type F, N or SMA)	Frequency range (GHz)	BDC	LO	Ka-band (GHz)	L-band (MHz)
55751x-V02 Autoswitch ext. 10MHz / ± 2.5 ppm	17.70 - 21.30	1	16.75	17.70-18.90	950-2150
		2	19.15	20.10-21.30	950-2150
		3	17.95	18.90-20.10	950-2150
55741x-V02 Autoswitch ext. 10MHz / ± 2.5 ppm	17.30 - 20.90	1	16.35	17.30-18.50	950-2150
		2	18.75	19.70-20.90	950-2150
		3	17.55	18.50-19.70	950-2150

**NOTE P/N:** x = "0" for F connector, "5" for N connector and "8" for SMA connector  
**NOTE splitter:** Connect BDC 1 and BDC 3 to the splitter

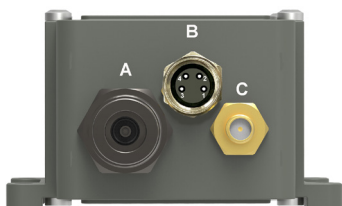
## Ka Triple Band system



**NOTE1:** Cable lengths are fixed due to best performance of this system. If other cable lengths are needed, please contact us first. Read our Product catalogue for more technical details. **NOTE2:** Frequency bands are not in order for BDC 2 & 3.



### BDC rear connectors



### Connector B (opt.)



- 1 = Alarm, open coll.
- 2 = A pos+, RS485
- 3 = B neg-, RS485
- 4 = Common (GND)
- 5 = Shield

### Connector A (standard)

Type: N-f, (option F-f or SMA-f)  
 Functions: L-Band out, DC in, External 10 MHz in

### Connector B (optional)

Type: M8 female, 4 pin, A coded  
 Functions: Alarm and M&C

### Connector C (optional)

Type: SMA-f only  
 Functions: Ext. 10 MHz in or DC input

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