

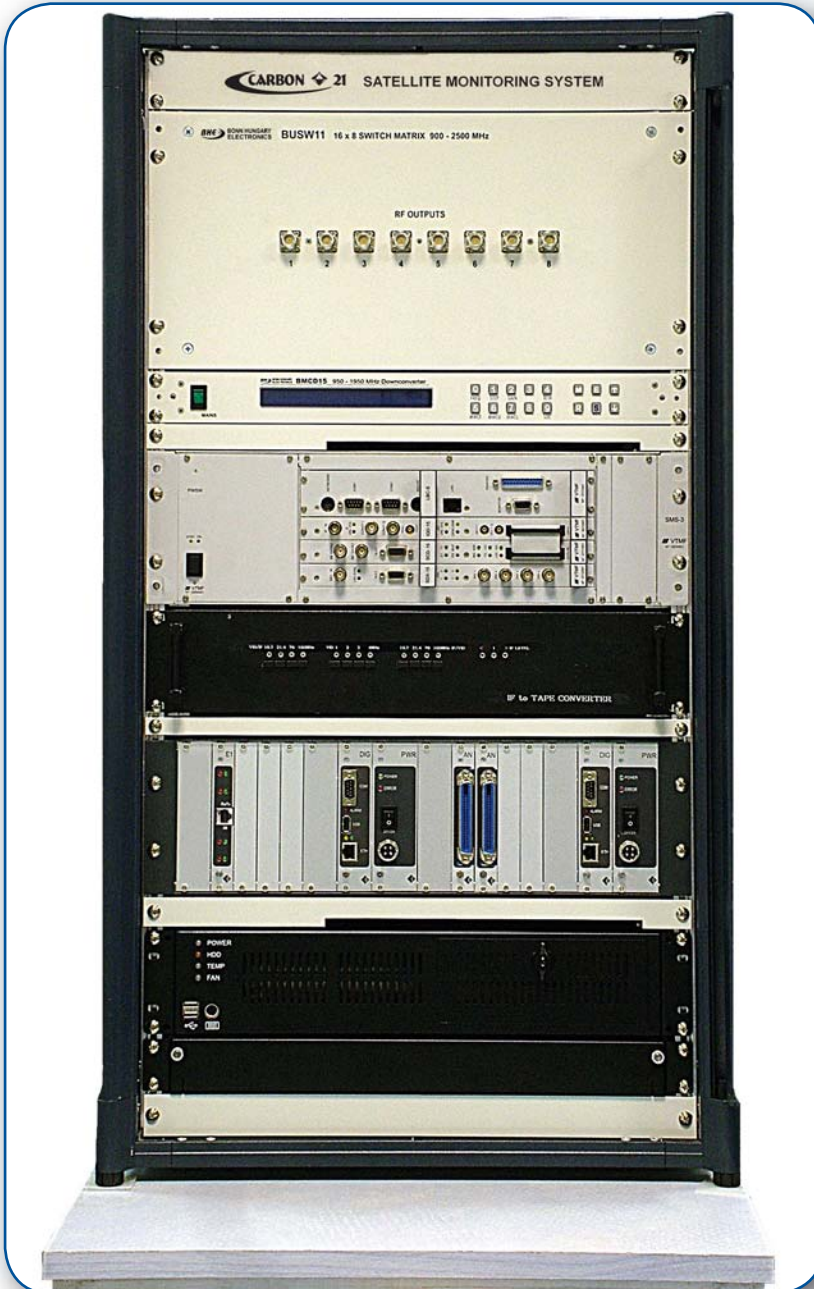


SATELLITE INTERCEPTION ANALYZER AND MONITORING SYSTEM

CARBON ◆ 21



Jointly developed and manufactured by BHE Bonn Hungary & Carinex



FEATURES

- Complete system from the antenna feed to the digital data storage media
- Flexible, software configurable workstation
- Individually useful system elements (subsystems)
- User defined, variable system configuration
- Guaranteed hardware and software upgrade possibility
- TCP/IP remote control capability
- Demodulator and Decoder (2.4 kbps to 2Mbps, BPSK, QPSK, 8PSK, 16QAM, 32QAM, 64QAM, FSK, 4FSK)
- Data Base Server PC inside FA decoder
- Gbit Ethernet interface

The elements of **CARBON21** system can be used as individual subsystems and due to the standardized interfaces the system can be optimized according to the user requirements.

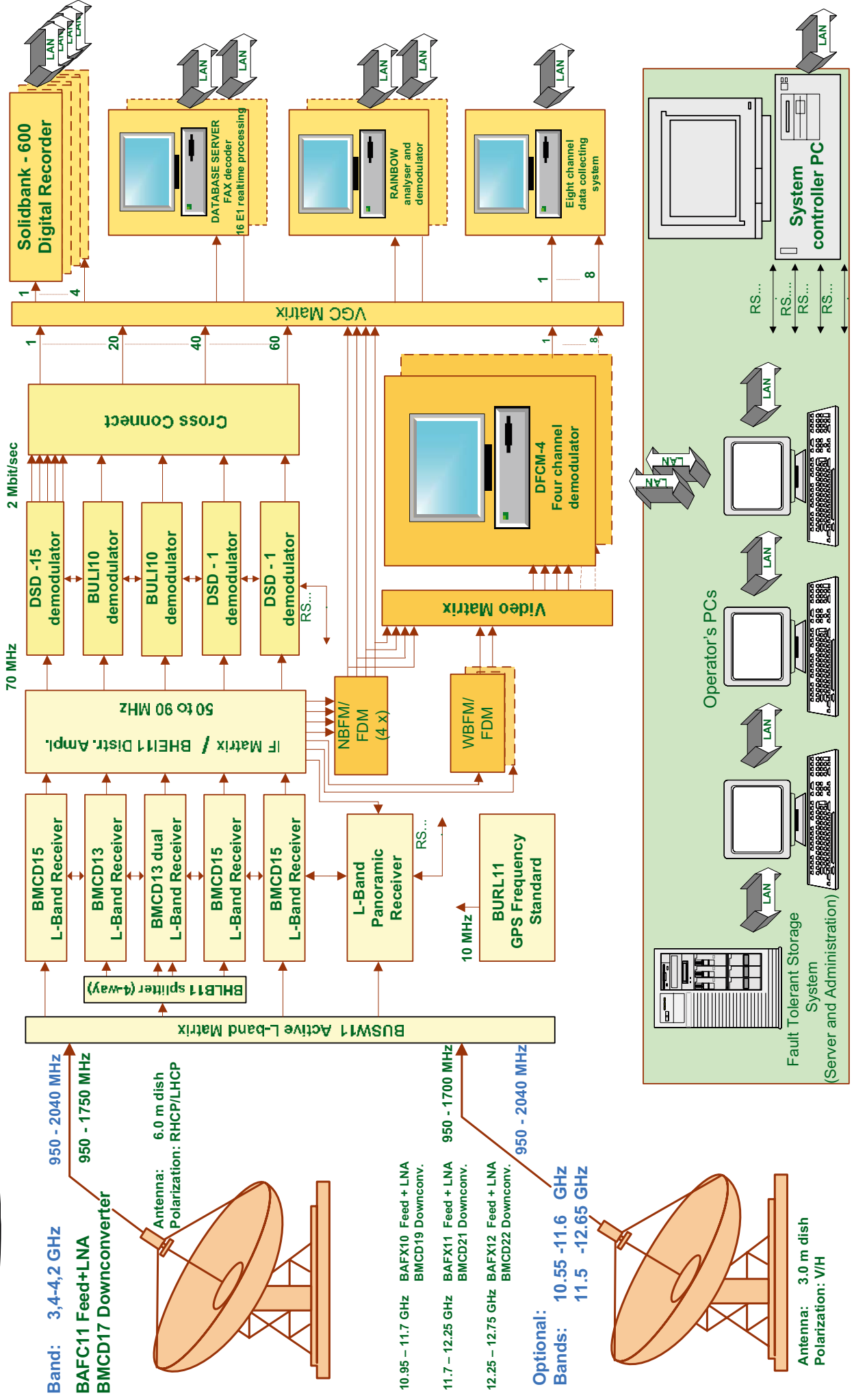


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SATELLITE INTERCEPTION ANALYSER AND MONITORING SYSTEM



SYSTEM ELEMENTS:

BAFS11 - S BAND FEED & LNA

S-band dual channel -Right Hand and Left Hand Circular output low noise amplifier&feed with high polarization attenuation. Frequency range: 3.4-4.2 GHz



BAFX10, BAFX11, BAFX12 - Ku BAND FEED & LNA

Ku-band dual channel -Vertical and Horizontal output- low noise amplifier&feed with high polarization attenuation. Frequency range: 10.95-11.7, 11.7-12.25, 12.25-12.75 GHz

BMCD17 - S BAND DOWNCONVERTER

This dual channel down converter has extremely low phase noise and >60 dB isolation between channels for use in professional applications such as satellite earth stations in 3.4-4.2 GHz frequency band.. It properties, making it possible to receive very weak signals close down to the thermal noise floor.



BMCD19, BMCD21, BMCD22 - Ku BAND DOWNCONVERTER

This dual channel down converters has extremely low phase noise and >60 dB isolation between channels for use in professional applications such as satellite earth stations in 10.95-11.7, 11.7-12.25, 12.25-12.75 GHz frequency bands. It properties, making it possible to receive very weak signals close down to the thermal noise floor.

BUSW11 - L BAND SWITCH MATRIX

This wide band, 16x8 configuration switch matrix operates in 900 to 2500 MHz frequency range. It controlled through the built-in TCP/IP control port, and it can supply the antenna heads (converters) via the antenna cables. These antenna supplies are switchable by the control software.



BMCD13 - L BAND DOWNCONVERTERS

L band -950 to 2150 MHz- downconverter for satellite monitoring system. Low phase noise, low power consumption. Output frequency band 50-90 MHz, frequency step1 kHz. Single or dual version available in 19" 1U high rack

BMCD15 - L BAND DOWNCONVERTER

The L band input - 950 to 1950 MHz - down converter's output frequency band is 50-90 MHz. It has extremely low phase noise properties, minimum 35 dB better than the IESS-308 standard, making it possible to receive very weak signals close down to the thermal noise floor. The high frequency resolution of 1 kHz provides easy tuning and signal search.



L BAND & 70 MHz DISTRIBUTOR AMPLIFIERS

BHLB10 (2-way), BHLB11 (4-way) splitter, BPAW13 (20 dB gain), BPAW14 (10 dB gain) low noise amplifier in 950 - 2150 MHz range. BHEI10 (2-way), BHEI11 (4-way), BHEI12 (8-way) distribution amplifier in 50 - 90 MHz range. All input and output impedances: 75 ohm

BULI10 - DIGITAL DEMODULATOR

The unit demodulates PSK, QPSK, OQPSK, 8PSK and 16QAM signals in the range of 2.4 kbs - 4 Mbs,. The demodulator's software is upgradable to the future's demand , to analyze and process any kind of signals. FEC decoders: Viterbi, Trellis, Sequential, Reed-Solomon, Turbo-PC. Line Data/Outputs: TCP-IP programmable, RS-422, HDB3.





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DTD-33 - DIGITAL DEMODULATOR

The unit serves for monitoring/analyzing of terrestrial Digital Microwave Radio communication signals up to 45 Mbps (+ radio overhead).

DTD-33 unit – Signal Processing

Symbol rate: 3.5 – 33 MSps/Mbaud

Modulation types: BPSK, QPSK, Offset QPSK, 8PSK, 16QAM, 32QAM, 64QAM, FSK, 4FSK

DTD-33 unit – Interface

Line/data outputs: E2/T2, E3/T3

clock and data signals at 3,5 – 50 Mbps

Line coding: HDB3

DSD-1MF - DIGITAL DEMODULATOR

The unit serves for monitoring/analyzing of terrestrial Digital Microwave Radio communication signals up to E1 AND 2E1 (+ radio overhead).

DSD-1MF unit - Signal Processing

Sampling rate: 195 MHz

Baud rate: 56 kbaud ... 7 Mbaud

Demodulation: 2 – 8 state PSK, 16 QAM, 2 – 4 state FSK

Data Decoding: Reed-Solomon (up to 255 symbols, 4 – 8 De-Interleaving), BCH, Hamming, Golay, TPC

Descrambling: LFSR, up to 32-bit with 2 – 4 feedbacks, synchron and self-synchronized type Channel Overhead

DFCM-4 - DEMODULATOR

The unit is applicable for monitoring the base band signals of the FDM-FM analogue microwave transmission connected to the base band output of a microwave receiver. The DDCDSP digital processor board can be used very efficiently to solve signal receiving and processing with great amount of calculation and is capable to demodulate modem bit streams and other digital streams in the telecommunication voice channels by using RAINBOW analyzer program.

Tuning range: 2 – 13,999 kHz

SSB demodulation: USB or LSB speech channel



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