

## Digital Receiver Family

Frequency range 300 Hz to 3 GHz



# Technical Description

MRCM offers high performance as well as cost effective narrowband receivers for the frequency range 300 Hz to 3 GHz.

The complete scope of receivers with special functionality fullfills a variety of applications, using the latest technology of RF frontend

techniques, combined with state of the art digital signal processing.

All receivers are designed for use in systems or as stand alone units, controllable via PC and/or via control panel.

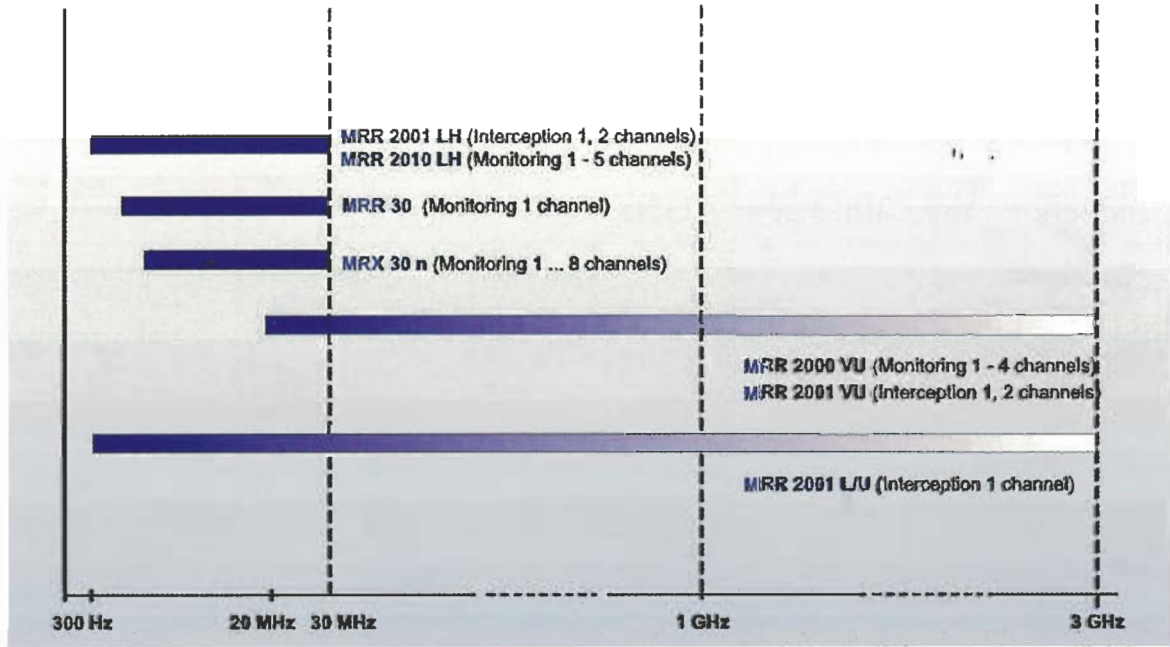


Fig. 1: Applications

## Special Features

- Usable in fixed or mobile station
- Variable fitting of numbers of receiving channels
- Digital Signal preprocessing for optimum adaptation to receiving and signal conditions
- Excellent large signal behavior e.g. high values of intermodulation and crossmodulation
- Wide dynamic range for applications in different electromagnetic scenario
- Highly accurate and fully reproducible filter characteristics
- Digital demodulators
- IF-outputs for signal preprocessing and for recording
- Memory and frequency scan
- Interfaces: RS232 or LAN or high speed optical link
- BITE failure detection on module level
- 19" plug in technique and 1/2 19" unit
- General use of core modules

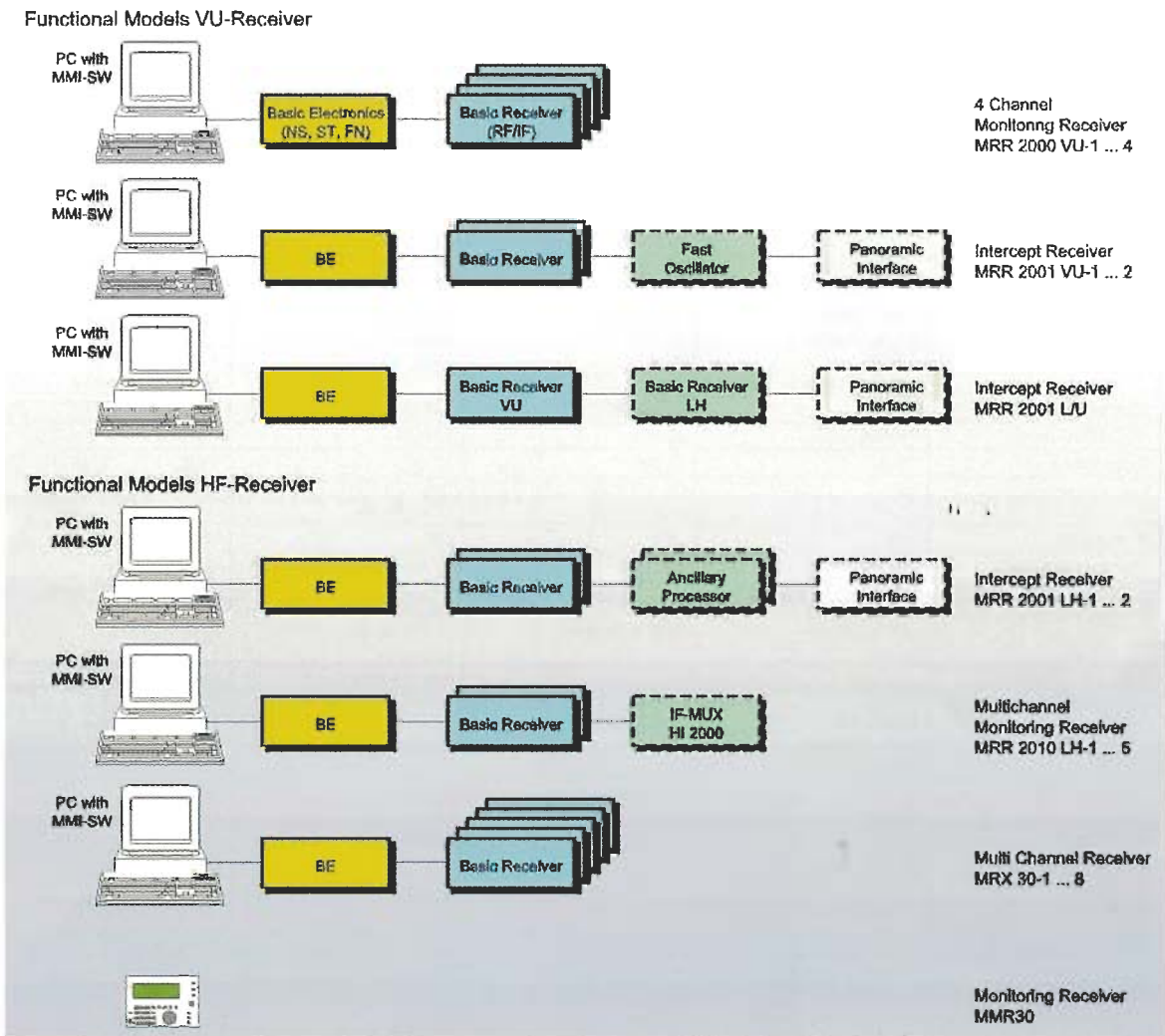


Fig. 2: Functional Models of Receivers

**Options**

- MMI interface SW for receiver control via PC
- Stand alone control panel 19" with serial (RS232) or LAN (Ethernet) interface for MRR 2000 receivers
- Spectrum monitoring with panorama interface for wideband spectrum and narrow-band spectrum for MRR 2000 receiver
- Automatic Data Analyzing System SW ADAS 2000 (MRR 2001 LH-2)



Fig. 3: Receiver Control Panel

# TECHNICAL DATA

	HF			VHF/UHF
	MRR 2000	MRR 30	MRX 30	MRR 2000
Frequency range	300 Hz to 30 MHz	5 kHz to 30 MHz	0.1 to 30 MHz	20 to 3000 MHz
Frequency resolution	1 Hz	1 Hz	1 Hz	10 Hz; 100 Hz; 1 kHz
Types of demodulation	CW; AM; FM; SSB; FSK; PSK; QAM	CW; AM; FM; SSB; ISB	CW; AM; FM; SSB; ISB; FSK	CW; AW; FM; SSB;
IF-Filter bandwidth	27 Steep-edge and 16 phase- linear filters 0.1 to 10 kHz	19 phase- linear filters 150 Hz to 16 kHz	22 phase- linear filters 150 Hz to 50 kHz	11 phase-linear filters
Notchfilter	3 filter typ 40 dB rejection	none	none	7 filter typ 40 dB rejection
Intermodulation IPIP 3	+40 dBm	+30 dBm	+24 dBm	+20 dBm
AGC/MGC range	140 dB	120 dB	120 dB	120 dB
Noise figure	14 dB	14 dB	12 dB	9 dB
Image rejection	≥90	IF1 ≥ 90 dB IF2 > 80 dB	IF1 ≥ 80 dB IF2 ≥ 80 dB	≥80
IF rejection	≥90	>90	>80	>80
Channel (scanrate)	30 ch/s	100 ch/s	100 ch/s	100 ch/s (10.000 ch/s optional)
IF output frequency	12.5 kHz (BW 100 Hz to 10 kHz)	30 kHz (BW = 16 kHz)	100 kHz (BW = 50 kHz optionally BW = 6 kHz)	70 kHz (BW = 20 MHz) 1.5 MHz (BW = 325 kHz)
Data interface	RS232 RS422/485 LAN (TCP/IP) option	RS232 (V28) IEEE 488.1 RS422	RS232 LAN (TCP/IP)	RS232 RS422/485 LAN (TCP/IP)
User interfaces	WIN NT Control panel	Front panel	WIN NT	WIN NT Control panel
Power supply	115/230 VAC 24VDC option	115/230 VAC	110/240 VAC	115/230 VAC 24VDC option
Packaging	3U, size 19"	3U, ½ size 19"	3U, size 19"	3U, size 19"
Operating Temperature	-10°C to +55°C	0°C to +55°C	-10°C to +55°C	-10°C to +55°C
Storage Temperature	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C	-25°C to +70°C

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