

# RAMAC/GPR™ CONTROL UNIT CU II & MULTI-CHANNEL UNITS



## Control Unit CU II

The Control Unit CU II is the main part of the RAMAC/GPR™ system. The CU II is compatible with all current RAMAC/GPR™ antennas.

The CU II is also compatible with the Multi-Channel-add on modules MC-4 and MC-16.

The Control Unit CU II operates with the Windows™ based Ground Vision™ acquisition software.

The CU II supports parallel ECP communication, ensuring high transfer rate of data.

The RAMAC GPR interchangeable features make it available in single-channel or multi-channel systems, compatible with our shielded, unshielded or borehole antennas. So that's a choice of more than ten different single channel configurations ranging from 25 MHz to 2.3 GHz, and up to sixteen simultaneous recording channels in multi-channel mode, all operated from a unique Control Unit.



### Single channel RAMAC/GPR

The key part of a RAMAC/GPR is the unique control unit CUII. It connects to any of our standard antennas via an antenna electronics fitted directly onto the antenna itself.



MC-4

Fiber optic cable connection between electronics and ECP communication between CUII and computer ensure a high and safe data transfer. The use of optical fibers enables a separation between antennas of several hundred meters, operating in standard reflection mode, tomography mode or velocity (CMP) mode of operation.

### Multi-channel RAMAC/GPR

By adding on a light and compact module to the control unit CUII, the RAMAC GPR becomes a multi-channel system. The Multi-Channel Unit is available in two versions: MC-4 with up to four or MC-16 with up to sixteen recording channels. The unique multiplexing feature between either of the transmitters and receivers of the Multi-Channel Unit is controlled through the Ground Vision™ software.



MC-16

## TECHNICAL SPECIFICATIONS

**In brief**

### **CU II**

The RAMAC/GPR™ Control Unit II (CU II) connects to any of the standard RAMAC/GPR™ antennas.

ECP communication enables high and safe data transfer rates.

For quick and easy operation, calibration and setup default parameters are stored in the internal memory.

The CU II has an expansion slot for possible upgrade to a Multi-Channel radar unit

**In brief**

### **MC-4 & MC-16**

The RAMAC/GPR™ Multi-Channel Unit (MC-4 and MC-16) is an optional add-on module to the CU II. The Multi-Channel comes in two versions, MC-4 with up to 4 recording channels or the MC-16 with up to 16 recording channels. The MC-16 connects 4 receivers and 4 transmitters.

The Multi-Channel Unit has the capability to operate any of the optional receiver inputs to any transmitter (controlled through software). The repetition rate of the Control Unit is shared among the defined channels, i.e. the effective repetition rate equals 100kHz (standard) over the number of channels defined.

<b>Pulse repetition frequency</b>	100 kHz (standard)
<b>Data bits</b>	16
<b>Nr of samples/trace</b>	128 - 8192
<b>Nr of stacks</b>	Auto stacking in the range 1 – 32768 for optimized speed performance
<b>Sampling frequency</b>	0.4 - 50GHz
<b>Signal stability</b>	<100ps
<b>Communication interface</b>	IEEE 1284 (ECP)
<b>Communication speed</b>	>700kByte/s
<b>Data transfer rate</b>	40 - 400kB/s at 4Mbit/s
<b>Acquisition modes</b>	distance/time/manual
<b>Power consumption</b>	8V RAMAC/GPR std battery
<b>Antennas and compability</b>	All RAMAC Antennas
<b>Operating temperature</b>	-20°C to +50°C
<b>Environmental</b>	IP67

	<b>CU II</b>	<b>MC-4</b>	<b>MC-16</b>
<b>Max no. of recording channels</b>	1	4	16
<b>Max no. of physical channels</b>	1	2(2Tx,2Rx)	4(4Tx,4Rx)
<b>Dimensions</b>	230x200x120 mm (9x7,8x4,7 In)	220x85x25 mm (8,7x3,3x1 In)	220x85x25 mm (8,7x3,3x1 In)
<b>Weight</b>	2,5 kg (5,5 lb)	0,7 kg (1,5 lb)	0,7 kg (1,5 lb)