



Equipment Design

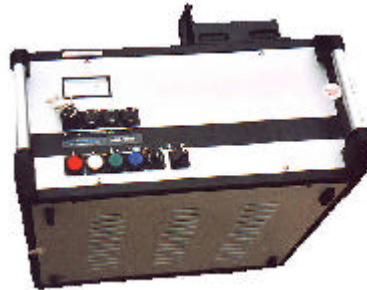
Consulting

Software

Rental

P-wave sparker equipment

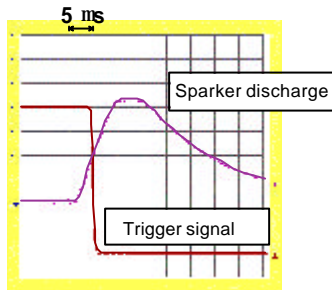
The basic seismic crosshole source equipment consists of the electric surge generator IPG and the remote control unit RCU. To the surge generator various seismic sparker sources can be connected. Triggering of the seismic acquisition system is performed by the remote unit.



IPG 1005

Technical data IPG 1005

Impulse voltage: 5 KV
 Impuls energy: 1000 J
 Repetition rate: from 4 to 7 s
 Power supply: 230 V 50 Hz 2,5 A
 Dimensions: 52 x 25 x 50 cm
 Weight: ~ 52 Kg
 Working Mode: Manual/Continuous
 Emergency OFF button
 Safety key switch



The remote control unit RCU converts the reference signal of the surge generator to a trigger signal (right). Sparker pulses are released through manual or automatic triggering of the generator by the remote unit. The background noise can be recorded automatically and used to interrupt data acquisition if the noise level is too high. Trigger accuracy is below 10 μ s (left).



RCU

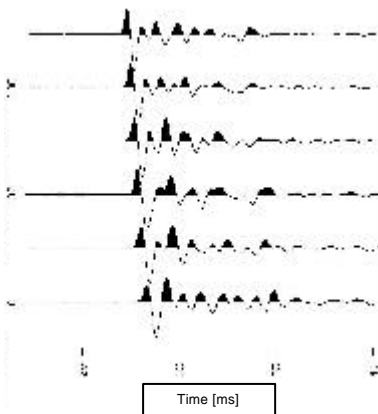
Technical data RCU

TTL Low/High trigger output
 Trigger test option
 Trigger level adjustment
 Impulse Counting
 Single shot release
 Continuous shot release
 (with variable repetition rate from 4..7 sec.)
 Emergency OFF button
 Safety key switch

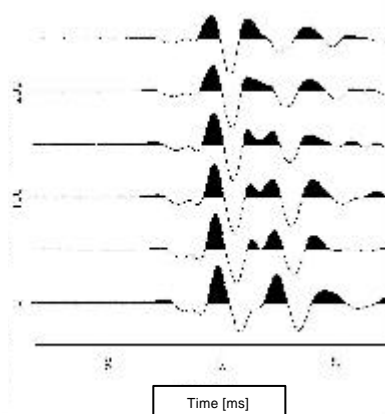


To generate the sparker pulses within the borehole the p-wave sparker probe **SBS 42** is used (left). The SBS 42 consists of a probe tube and a rubber tube system. The sparker predominantly produces high frequency p-waves even over large distances as shown below.

Borehole distance 45 m



Borehole distance 95 m



Frequency response

(data from Karlsruhe test site)

