



ROTHENBUHLER ENGINEERING®

HOME OF THE *Talkie Tooter!*

1669 Remote Firing Device

*Department of Commerce license
may be required for export*

Detonate Charges Safely – Remotely

ADVANCED TECHNOLOGY

The Rothenbuhler 1669 Remote Firing Device (RFD) is an Intelligent and discrete 2-way radio controlled initiation system. The RFD consists of a Controller and 8 Remotes. The Remotes respond only to commands transmitted from a similar digitally encoded (addressed) Controller. Each electric Remote has the capability to fire a maximum of 8, M6 electric blasting caps wired in series. The RFD's unique and field proven design will only allow a system with the correct "address" to interrogate and actuate the Remotes. The latest microprocessor and message encoding/validation technology have been combined to provide a SAFE, RELIABLE, ACCURATE and COMPACT tool.

SAFE – RUGGED – PROVEN

The RFD is safer to use than conventional electric initiation methods. The user does not have to contend with the accumulative resistance and voltage drops inherent with hard wire initiation methods. The Controller and Remotes can be used repeatedly throughout an operation. The Remotes have a timed automatic disarming feature for added safety. All Controller and Remote buttons, LEDs and hardware are recessed, to minimize the possibility of damage. All system cases are WATERTIGHT. All RFD cases have a vent for pressure equalization.

EASY TO USE

The RFD Controller may be operated with one hand. Upon receipt of a command from the similarly addressed Controller, the Remote will execute the command and send a status confirmation to the Controller. If the Controller is within 1 mile of the Remote, the confirmation signal will be visually annunciated on the Controller's keypad display. If the Controller is more than 1 mile away from the Remote, there is a high probability the confirmation will not be received and annunciated by the Controller; however, the command will be executed assuming the Remote is within range. Two-Way communication is not a prerequisite to operation. Commands can be reliably received from distances of 5 miles or greater. The Remote RF power is limited as a safety precaution against the possibility of an inadvertent initiation caused by high power radio transmission.

SYSTEM VERSATILITY

The RFD has a versatility and reliability not before seen in demolition initiation systems. As mentioned before, the typical system includes one Controller and 8 Remotes. Due to the unique design of the Rothenbuhler RFD, the system can

individually command from 1 to 8 Remotes. The Remotes can be individually switched on, off, armed, fired, and interrogated for status via the keypad on the Controller. If a Remote has a low battery, this will be indicated on the Controller's keypad if the Remote is within range. With the 1669 system and the **SLEEP MODE feature**, the Remotes can be left in standby mode for approximately 200 hours and still maintain the energy to initiate blasting caps.

TEST BOX

The Test Box is an additional unit the size of the controller that tests battery condition, firing circuit capacity and does an internal circuit test of all units. A computer can be used through the serial port to program the frequency and addressing of the Remotes so that they can be moved between systems. A hard copy of the test results can also be generated for later comparisons.

OPTIONAL REMOTE SHOCK TUBE INITIATOR

The RSTI (Remote Shock Tube Initiator) is another feature. This unit will detonate non-electric shock tube. The RSTI remotes may be substituted for any electric remote within an 8 remote system (small additional cost).

OPERATING FEATURES

10 Seconds to ARM

60 Seconds to AUTO DISARM

3 Seconds to manual DISARM

Instantaneous FIRE

SELECT & FIRE all or individual Remotes



MODEL 1669 REMOTE FIRING DEVICE

STANDARD FEATURES & FUNCTIONS

ALL UNITS

Low battery and unit status indications
EMI shielded, shock mounted
Watertight cases – 100 ft depth
Long-life rechargeable NiMH batteries
Reprogrammable – 520,000 addresses
Environmental tested to portions of MIL-STD-810
CRC-16 error detection and message validation

BASIC SYSTEM

1 Controller, 8 Electric Remotes, Test Box,
antennas, battery charger, and hard shell carrying case.

CONTROLLER

Backlit, interactive keypad
Polls for and displays status of all Receivers
Transmit indication
Controls up to 8 Remotes; status, arm, disarm and fire

ELECTRIC REMOTE

Spring loaded terminal posts
Detonates 8 (M6) #8 blasting caps
0 voltage on posts until FIRE

SHOCK TUBE INITIATOR

replaceable 200 shot spark tip
Standard 1/8" shock tube
0 voltage on tip until FIRE

GENERAL

CARRIER FREQUENCY VHF – 148 to 174 MHz
FCC Type Accepted

OPERATING TEMPERATURE -30°C to +60°C
-22°F to +140°F
<freq diff 1300 Hz (± 650)>

CONTROLLER

Frequency Stability ±5PPM
Modulation 10K6F2D (AFSK)
Transmit Power 5 Watts
Operating Power 12 VDC
Transmission Range
Distance 5 miles (line-of-sight)**
Receiver sensitivity 12 dB SINAD: <0.7uV
Size(w/out antenna)(in) 8H x 3W x 2.5D
Size(w/out antenna)(cm) 20.32Hx7.62Wx6.35D
Weight (w/battery)(lb.) 2.75 lbs.
Weight (w/battery)(kg) 1.14 kg
Case Die cast aluminum
Color Black
Battery pack Rechargeable NiMH
Battery Life
Standby 6 hours
Typical recharge 100 minutes
Current Draw
Standby 100 milliamps
Transmitting 2.0 amps

REMOTES - - -

Frequency Stability ±5PPM
Modulation 10K6F2D (AFSK)
Transmit Power 1 watt
Operating Power 7.2 VDC
Transmission Range
Distance Approx. 1 mile**
Receiver sensitivity 12 dB SINAD: <0.7uV
Size(w/out antenna)(in) 6H x 3W x 2.5D
Size(w/out antenna)(cm) 15.24Hx7.62Wx6.35D
Weight (w/battery)(lb.) 2 lbs.
Weight (w/battery)(kg) 0.91 kg
Case Die cast aluminum
Color Black
Battery pack Rechargeable NiMH
Battery Life
Standby Approx. 200 hours
Capacity to detonate 350+ times
Firing output 27V @ 5 amps(1.2 joules)
Typical recharge 100 minutes
Current Draw
Standby 60 milliamps
Transmitting 1.1 amps

ELECTRIC &

Frequency Stability ±5PPM
Modulation 10K6F2D (AFSK)
Transmit Power 1 watt
Operating Power 7.2 VDC
Transmission Range
Distance Approx. 1 mile**
Receiver sensitivity 12 dB SINAD: <0.7uV
Size(w/out antenna)(in) 6H x 3W x 2.5D
Size(w/out antenna)(cm) 15.24Hx7.62Wx6.35D
Weight (w/battery)(lb.) 2 lbs.
Weight (w/battery)(kg) 0.91 kg
Case Die cast aluminum
Color Black
Battery pack Rechargeable NiMH
Battery Life
Standby Approx. 200 hours
Capacity to detonate 350+ times
Firing output 2.5 kV
Typical recharge 100 minutes
Current Draw
Standby 60 milliamps
Transmitting 1.1 amps

SHOCK TUBE

Frequency Stability ±5PPM
Modulation 10K6F2D (AFSK)
Transmit Power 1 watt
Operating Power 7.2 VDC
Transmission Range
Distance Approx. 1 mile**
Receiver sensitivity 12 dB SINAD: <0.7uV
Size(w/out antenna)(in) 6H x 3W x 2.5D
Size(w/out antenna)(cm) 15.24Hx7.62Wx6.35D
Weight (w/battery)(lb.) 2 lbs.
Weight (w/battery)(kg) 0.91 kg
Case Die cast aluminum
Color Black
Battery pack Rechargeable NiMH
Battery Life
Standby Approx. 200 hours
Capacity to detonate 350+ times
Firing output 2.5 kV
Typical recharge 100 minutes
Current Draw
Standby 60 milliamps
Transmitting 1.1 amps

BATTERY CHARGER

50/60 Hz 90–132 / 180-264 VAC auto switching
Max. current draw 4.5 A @ 120 VAC or 2.2 A @ 240 VAC
Typical charge time 100 minutes + 180 minutes for discharge cycle if selected

***Typical transmission range, based on frequency used and terrain. Frequencies less than 150 MHz typically have a range of at least 4 miles*

WARRANTY The 1669 Remote Firing Device is guaranteed for 2 years (batteries - 1 year, spark tips excluded) against defects in workmanship and materials. If the equipment should fail during this period, we will repair it at our factory or at the nearest authorized service facility. Warranty service on this equipment must be performed only by an authorized dealer. Unauthorized service procedures or parts will void and cancel your warranty, and may cause radio equipment to fail, resulting in accidents and/or personal injury. This is a limited warranty and is given in place of legally implied warranties of merchantability and fitness for a particular purpose. Our liability is expressly limited to the cost of repair or replacement of the RFD under this guarantee, and does not extend to additional or consequential damages resulting from the operation of equipment.



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