



ROTHENBUHLER ENGINEERING

HOME OF THE *Talkie Tooter!*

1670 Remote Firing Device

*Department of Commerce
license may be required*



1670 Controller



1670 Dual Output Remote – 1 Watt

THE 1670 REMOTE FIRING DEVICE (RFD) is an intelligent and discrete 2-way radio controlled remote blast initiation system. The radio system's signal is digitally encoded (addressed). The latest microprocessor and message encoding/validation technology has been combined to provide a **SAFE, RELIABLE** and **ACCURATE** Remote Firing Device. Rothenbuhler Engineering engineered this system using over 15 years of military and commercial RFD experience.

The **1670 RFD** has the capability to initiate non-electric shock tube, as well as standard electric blasting caps. The system can be used repeatedly throughout an operation and will give an "answer back" or confirmed status of all **or** any one of the Remotes. The Remotes can be held in the standby (not armed) mode for up to 12 hours and still maintain the energy to initiate the shot. The 1670 RFD includes redundant internal safety circuitry and a timed automatic disarming feature. If the Remotes do not receive a properly addressed firing signal within 2 minutes of being armed, the system will automatically return to the disarmed state.

RUGGED – All system cases are watertight and have a vent for pressure equalization. The electronics have been specially mounted to help prevent damage from shock and vibration from blasting, transportation and mishandling.

SYSTEM VERSATILITY – The 1670 RFD has a versatility and reliability not before seen in initiation systems. The unique design of the Rothenbuhler RFD offers the versatility of commanding 1 to 8 Remotes with a single Controller. The Remotes can be individually selected, armed, fired and interrogated for status via the keypad on the Controller.

NON-ELECTRIC – this Remote offers greater power for better range using shock tube.

Highlights:

- Up to 8 Remotes
- Electric and Shock Tube Outputs
- Sequential Firing
- Surface Mines OR Underground via Leaky Feeder
- Two-Way Status Communication
- Up to 5 Mile Range
- Unique System ID Codes
- Safety Poll[®] Communications Check
- Electronic Keys
- External Programming and Option Port
- Remote Battery Status Check
- 4 Hour Battery Re-charge
- Emergency shutdown
- Tag Board Check Compatible
- Vibration & Shock Mounted Electronics
- Weather Proof Cases



1670 Non-Electric Remote – 5 Watt

~ *Patent Pending* ~

MODEL 1670 REMOTE FIRING DEVICE

STANDARD FEATURES & FUNCTIONS

All UNITS

Low battery & unit status indications
EMI shielded, shock mounted, solid state circuitry
Watertight cases
Long-life rechargeable NiMH batteries – 4 hr. charge
Programmable for leaky feeder & repeaters

SYSTEM BASICS

Controller, 1 to 8 Remotes, Antennas,
Battery chargers, Shock Tube tips
Electronic Keys

CONTROLLER

Interactive keypad
Polls for and displays status of all Remotes
Transmit and confirmation indicators
Controls up to 8 Remotes

REMOTE

Spring loaded terminal posts
0 Voltage on posts until "Fire"
Uses replaceable 500 shot spark tip & standard 1/8" shock tube

CERTIFICATIONS: US-Federal Communications Commission (FCC)
CANADA-Department of Communications (DOC)

SAFETY CERTIFICATIONS: WORK SAFE BC-British Columbia, Canada
Department of Industry and Resources, Western Australia

GENERAL

Carrier Frequency VHF – 148 to 174 MHz
UHF – 450 to 490 MHz
FCC & IC Certified

Operating Temperature -30°C to +60°C**
-22°F to +140°F

**Optimum battery range 0°C to 50°C

CONTROLLER

Frequency Stability ± 0.3pm
Modulation 8K60F2D (FSK)
Transmit Power 1 – 5 Watts
Operating Voltage 12 VDC
Transmission Range 1 – 5 miles**
Receiver Sensitivity 12 dB SINAD:<0.45uV
Size (in) 10W x 12D x 4.5H
Size (cm) 25.5W x 30.5D x 11.5H
Weight 6.5 lbs.
Weight 3.0 kg
Case Waterproof Pelican 1200
Color Yellow
Battery Pack Rechargeable NiMH
Battery Life
Standby 10-12 hours
Complete Recharge 4 hours
Current Draw
Standby 135 mA
Transmitting 1 – 2.5 Amps

REMOTE

Frequency Stability ± 0.3pm
Modulation 8K60F2D (FSK)
Transmit Power 1 – 5 Watts
Operating Voltage 12 VDC
Transmission Range 1 – 5 miles**
Receiver Sensitivity 12 dB SINAD:<0.45uV
Size (in) 10W x 12D x 4.5H
Size (cm) 25.5W x 30.5D x 11.5H
Weight 7.25 lbs.
Weight 3.3 kg
Case Waterproof Pelican 1200
Color Orange
Battery Pack Rechargeable NiMH
Battery Life
Standby 10-12 hours
Complete Recharge 4 hours
Current Draw
Standby 125 mA
Transmitting 1 – 2.5 Amps
Fire Output (Electric) 27 Volts (1.2 joules)
Fire Output (Non-electric) 2.5 kV (0.625 joules)

BATTERY CHARGER

100-240V / 47-63Hz auto switching
Max. current draw 12VDC, 2.1A
Typical charge time 3-4 hours

** Line-of-sight. Typical transmission range based on power level, frequency, terrain, and local interference.

WARRANTY

The 1670 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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