

SS-5249-23-KH**Form A****CITY OF GRAND JUNCTION
SOLE SOURCE JUSTIFICATION FORM**


Date: April 27, 2023 Requested By: Cdr. Sean Crocker
 Department: Police Division: Bomb Squad
 Vendor Name: Rothenbuhler Net Cost Delivered: \$ 30,025.00

**SOLE SOURCE JUSTIFICATION
(INITIAL ALL ENTRIES THAT APPLY)**Material/Service Description: Rothenbuhler 1678 Remote Firing Device.

1. SLC - The Vendor is the original equipment manufacturer and there are no regional distributors;
2. SLC - The product, equipment or service requested is clearly superior functionally to all other similar products, equipment or service available from another manufacturer or vendor;
3. _____ - The over-riding consideration for purchase is compatibility or conformity with City-owned equipment in which non-conformance would require the expenditure of additional funds;
4. SLC - No other equipment is available that shall meet the specialized needs of the department or perform the intended function;
5. SLC - Detailed justification is available which establishes beyond doubt that the Vendor is the only source practicably available to provide the item or service required;
6. SLC - Detailed justification is available which proves it is economically advantageous to use the product, equipment or service.


Departmental Approval:

I recommend that competitive procurement be waived and that the service or material described herein be purchased as a sole source.

Signed:  Chief of Police 4/27/2023
DocuSigned by: 2FFFDAB3E8BE478 Name Title Date

Purchasing Approval:


Based on the above and attached documents, I have determined this to be a sole source with no other vendor practicably available.

Signed:  4/27/2023
DocuSigned by: 09BA36D53ED04B7... Purchasing Manager Signature Date

Final Authorization

City Manager Approval Required (\$25K to \$50K)

yes / no

Signed:  4/27/2023
DocuSigned by: 2F1EE1D55758492 City Manager Signature Date

City Council Approval Required (over \$50K)

☐ yes / no ☐**Attach Justification Documentation and Forward to City Purchasing Division**



MEMORANDUM

TO: Greg Caton, City Manager

FROM: Cdr. Sean Crocker 04-6

DATE: February 19, 2023

SUBJECT: Sole Source Narrative for Rothenbuhler Remote Firing Device

Since the inception of the Grand Junction Police Department Bomb Squad, a General Dynamics remote firing device has been used. This remote firing device is over 12 years old, is no longer being produced and we cannot find spare parts when it needs repair. One of the remotes is damaged and no longer usable.

The Rothenbuhler Engineering Company is located in Sedro-Wooley, Washington and services all of the United States with their firing devices to Public Safety/Military Bomb Squads and the mining industry. Every Bomb Squad in the Denver area and the Hazardous Devices School in Huntsville, Alabama utilizes Rothenbuhler firing devices. They are the industry standard remote firing device and they are well known across the United States.

Rothenbuhler Engineering has outstanding customer service and they have been very prompt in returning my emails and phone calls when I have any questions about any of their products.

I have not found another reputable company that makes this type of remote firing device that meets the needs of the Grand Junction Police Department Bomb Squad.

I would recommend we purchase a Rothenbuhler remote firing device because all of the current bomb technicians on my team are familiar with the set up and firing procedures of the Rothenbuhler remote device. This exact unit is used at our basic certification class, recertification class and area trainings.



April 26, 2023

GRAND JUNCTION BOMB SQUAD
ATTN: SEAN CROCKER
55 UTE AVENUE
GRAND JUNCTION, CO 81501

Per your request, Rothenbuhler Engineering is submitting the following quote for a 1678 Remote Firing Device equipment and accessories to include the following (1678C1RSTI4):

(1) 16806-V2 Mini Controller @ \$5,145 ea.	\$ 5,145.00
(4) 167803-V2 RSTI Remote @ \$5,250 ea.	\$ 21,000.00
(1) 167808 5-pos. Conditioning Charger @ \$2,835 ea.	\$ 2,835.00
(1) 167813 Tactical Case @ \$1,045 ea.	\$ 1,045.00

TOTAL FOR THIS QUOTE = \$30,025.00 USD

No charge for shipping.

All prices quoted are in US Dollars. This quote is valid only for 90 days. This Product is export controlled in accordance with Export Administration regulations. Diversion outside the US is prohibited and contrary to US law.

TERMS: NET30

Lead time is approximately 8-10 weeks from acceptance of Purchase Order. Please let me know if you have any questions and allow for additional delays due to late part shipments and Covid closures.

Thank you,

A handwritten signature in black ink, appearing to read 'Kriss', is written over a light gray horizontal line.

KRISS ROTHENBUHLER-JOHNSON
PRESIDENT



RADIO REMOTE CONTROL SYSTEMS—SAFE, RUGGED, RELIABLE!!!

1678 Remote Firing Device

Department of Commerce license
may be required for export



NEW FEATURES:

- 8-Position Controller fires up to 8 Remotes
- Mini Controller fires up to 4 Remotes
- Rechargeable batteries are user replaceable
- Light display toggles between bright & dim
- Up to 12 Miles L.O.S. 2-way communication
- Faster communication
- Increased firing capacity
- 5 position charger and conditioner
- Sequential Delay Firing
- Simple Cable Pairing

The 1678 Remote Firing Device is designed with the same solid performance and excellent reputation as our 1669 model. Smaller and more compact, the Mini Controller fires up to four remotes, built with hard anodized, extremely tough and corrosion resistant cases. The increased firing capacity, **user replaceable** smart battery system and **brighter LEDs** with a dim setting are just a few of the enhanced features this new design offers.

The Rothenbuhler 1678 Remote Firing Device (RFD) is an intelligent and discrete 2-way controlled initiation system used on land as a primary firing mechanism to detonate explosive charges. The Remotes respond only to commands transmitted from a similar digitally encoded (addressed) Mini Controller. 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 (CRC-32) has been combined to provide a SAFE, RELIABLE, ACCURATE and COMPACT tool.

The RFD is safer to use than conventional electric initiation methods. The Remotes have a timed automatic disarming feature for added safety. All Mini Controller and Remote buttons, LEDs and hardware are recessed, to minimize the possibility of damage. All system cases are WATERTIGHT to a depth of 100 ft. All RFD cases have a vent for pressure equalization and airtight to an altitude of 30,000 ft.

The RFD has a versatility and reliability not before seen in demolition initiation systems. Due to the unique design of the Rothenbuhler RFD, the system can individually command from 1-4 Remotes with each Mini Controller unit. The Remotes can be individually selected on, armed, fired, and interrogated for status via the keypad on the Mini Controller. If a Remote has a low battery, this will also be indicated on the Mini Controller's keypad if the Remote is within range. With the 1678 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.

5-Position Charger →

Provides discharge/battery conditioning and will charge a unit in about 2 hours. It has advanced features that maximize the health and performance of the 1678's battery packs.



← 1678 Test Box

Allows the user to test and display system information, as well as perform diagnostic checks through a programming interface between a computer and the RFD units. It can also be used to reprogram certain settings and parameters.



~ Patent Pending ~

MODEL 1678 REMOTE FIRING DEVICE

STANDARD FEATURES & FUNCTIONS

RADIO

CARRIER FREQUENCY: 150-174 MHz
FCC Certified

OPERATING TEMPERATURE RANGE: -30°C to 60°C / -22°F to 140°F
-26°C to 60°C / -15°F to 140°F (RSTI)

	<u>MINI CONTROLLER</u>	<u>REMOTES: ELECTRIC & RSTI</u>
FREQUENCY STABILITY	±2.5PPM or (0.0000025%)	±2.5PPM or (0.0000025%)
MODULATION	11K2F3D (AFSK)	11K2F3D (AFSK)
MAX TRANSMIT POWER	5 Watts (Both Controllers)	2 Watts (Electric Remote)
	0.75 Watt (Test Box)	5 Watts (RSTI)
OPERATING POWER	7.2 VDC	7.2 VDC
TRANSMISSION RANGE (LOS)	5-12 Miles*	1-12 Miles*
	3 Feet (Test Box)	

(*) Range is specified as line-of-sight. The typical transmission range is based on transmitter power, antenna gain, frequency used, local geography, and local radio interference.

PHYSICAL

SIZE (w/out antenna) (in)	6.4H x 3.5W x 2.5D (MINI)	6.4H x 3.5W x 2.4D
SIZE (w/out antenna) (cm)	16.3H x 8.9W x 6.4D (MINI)	16.3H x 8.9W x 6.1D
SIZE (w/out antenna) (in)	7.2H x 3.5W x 2.6D (8-Pos.)	
SIZE (w/out antenna) (cm)	18.3H x 8.9W x 6.6D (8-Pos.)	
WEIGHT (w/battery) (lb.)	2.7 lbs.(Mini) / 3 lbs.(8-Pos.)	2.5 lbs.
WEIGHT (w/battery) (kg)	1.2 kg(Mini) / 1.4kg(8-Pos.)	1.1 kg
CASE	6061 Aluminum	6061 Aluminum
COLOR	Black	Black
CASE FINISH	Hard Anodized	Hard Anodized

BATTERY

BATTERY PACK	Rechargeable NiMH	Rechargeable NiMH
RUN TIME PER CHARGE	12+ Hours	Adjustable between 12-300 Hours Typical User Setting is 200 Hours*
BATTERY RECHARGE	1-4 Hours**	1-4 Hours**
BATTERY LIFE	Approximately 2 years or 300 charge cycles	Approximately 2 years or 300 charge cycles
STANDBY CURRENT	110 milliamps	80 milliamps
TRANSMIT CURRENT	1-2.5 Amp	1-2.5 Amp

(*) At the end of the 200 hours, the Electric Remote Unit can initiate 14 (2-Ohm) blasting caps Connected in series and attached to 100 feet (30 meters) of 18AWG firing cable.

(**) Actual charge time depends on the model of the charger used, initial charge of the battery, And the condition of the battery. This estimate does not include discharge or reconditioning operations.

DETONATE OUTPUT

FIRING ENERGY
PULSE VOLTAGE LEVEL
CAPACITOR
MAX FIRING RESISTANCE

ELECTRIC REMOTE

2.8 Joule (typical), 1.8 Joule (minimum)
50 VDC (typical), 45 VDC (minimum)
2,200µF Electrolytic
28Ω (This includes firing cables, detonators & detonator leg wires)

RSTI REMOTE

0.470 Joule (typical), 0.350 Joule (minimum)
2,500 VDC (typical), 2,250 VDC (minimum)

TIMING

ARM TIME: 4 ± 0.5 Seconds
ARM TIME PERIOD (BEFORE AUTO DISARM): 1-60 Minutes (20 Minute Default)*
DISARM TIME: 3 ± 0.1 Seconds
ELECTRIC REMOTE FIRE TIME: 20 Milliseconds
RSTI FIRE TIME: 225 ± 125 Milliseconds

(*) This is the amount of time the unit will remain Armed (ready to fire), before automatically returning to the disarmed state. This figure is normally set at 20 min. but can be changed.

WARRANTY The 1678 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.



**ROTHENBUHLER
ENGINEERING®**



1678 REMOTE FIRING DEVICE

Individual component pricing – Electric or RSTI Remotes can be mixed to make up a system with up to 8 Remotes total. ***Department of Commerce license may be required for export.***

1678-1 8-Position Controller	\$5,145
1678-6 Mini Controller	\$5,145
1678-2 Standard Electric Remote	\$4,350
1678-2-REVC High Energy Remote	\$4,750
1678-3 Remote Shock Tube Initiator (RSTI)	\$5,250
1678-4 Test Box (Optional)	\$2,875
1678-8 Conditioning Charger, 5 position	\$2,835
C930-400-00 Orange Cover (remotes only)	\$ 75
1678-50 Pairing Cable	\$ 250
1678-16/17 Blaster's Briefcase	\$ 575
(Space for Controller, 2 Remotes and Charger)	
1678-13 Tactical Case w/insert	\$ 710
(Space for Controller, 4 Remotes, Charger and optional Test Box)	
1678-18 Full Case	\$1,045
(Space for Controller, 8 Remotes, 2 Chargers and optional Test Box)	

System with 4 RSTI Shock Tube Remotes:

1678-6 Mini Controller	\$5,145
1678-3 RSTI Remotes x4	\$21,000
1678-8 Cond. Charger, 5-pos.	\$2,835
1678-13 Tactical case w/insert	\$710
Total System	\$29,690.00

System with 4 Electric Remotes:

1678-6 Mini Controller	\$5,145
1678-2 High Energy Remote x4	\$19,000
1678-8 Cond. Charger, 5-pos.	\$2,835
1678-13 Tactical case w/insert	\$710
Total System	\$27,690.00

System with 2 Electric & 2 RSTI Remotes:

1678-6 Mini Controller	\$5,145
1678-2 High Energy Remote x2	\$9,500
1678-3 RSTI Remote x2	\$10,500
1678-8 Cond. Charger, 5-pos.	\$2,835
1678-13 Tactical case w/insert	\$710
Total System	\$28,690.00

System with 1 Electric & 1 RSTI Remote:

1678-6 Mini Controller	\$5,145
1678-2 High Energy Remote	\$4,750
1678-3 RSTI Remote	\$5,250
1678-8 Cond. Charger, 5-pos.	\$2,835
1678-16 Blaster's Briefcase	\$575
Total System	\$18,555.00

(All prices quoted are in US Dollars and are FOB factory & are subject to change without notice)