



# **Public Safety & Transportation Committee Agenda**

## **City of Newton** **In City Council**

### **Budget Meeting**

**Thursday, May 10, 2018**

**7:00 PM**

**Room 205**

**Chair's Note:** Please bring your Budget and CIP books with you to the meeting.

### **Referred to Public Safety & Transportation and Finance Committees**

- #243-18**      **Appropriate \$1,210,000 to purchase new portable radios for Police and Fire**  
HER HONOR THE MAYOR requesting authorization to appropriate and expend the sum of one million two hundred ten thousand dollars (\$1,210,000) from Free Cash for the purpose of funding the purchase of new portable radios for the Police and Fire Departments.

### **Referred to Public Safety & Transportation and Finance Committees**

- #244-18**      **Appropriate \$600,000 for Fire Department overtime**  
HER HONOR THE MAYOR requesting authorization to appropriate and expend six hundred thousand dollars (\$600,000) from Free Cash to the Fire Department Overtime Account.

### **Items Scheduled for Discussion:**

**Fire Department Budget and CIP**

**Police Department Budget and CIP**

### **Referred To Finance and Appropriate Committees**

- #250-18**      **Submittal of the FY 201 Municipal/School Operating Budget**  
HER HONOR THE MAYOR submitting in accordance with Section 5-1 of the City of Newton Charter the FY19 Municipal/School Operating Budget totaling \$412,513,389 passage of which shall be concurrent with the FY19-FY23 Capital Improvement Program (#63-18).  
**EFFECTIVE DATE OF SUBMISSION 04/17/18; LAST DATE TO PASS THE BUDGET 06/01/18**

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The location of this meeting is accessible and reasonable accommodations will be provided to persons with disabilities who require assistance. If you need a reasonable accommodation, please contact the city of Newton's ADA Coordinator, Jini Fairley, at least two business days in advance of the meeting: [jfairley@newtonma.gov](mailto:jfairley@newtonma.gov) or (617) 796-1253. The city's TTY/TDD direct line is: 617-796-1089. For the Telecommunications Relay Service (TRS), please dial 711.

**Referred to Finance and Appropriate Committees**

**#63-18**

**Submittal of the FY 2019 to FY 2023 Capital Improvement Plan**

HIS HONOR THE MAYOR submitting the Fiscal Years 2019 to 2023 Capital Improvement Plan pursuant to section 5-3 of the Newton City Charter. (Submitted 10/16/17)

**Referred To Finance and Appropriate Committees**

**#251-18**

**Submittal of the FY 2019 – FY 2023 Supplemental Capital Improvement Plan**

HER HONOR THE MAYOR submitting the FY 2019 – FY 2023 Supplemental Capital Improvement Plan.

All other items before the Committee will be held without discussion.

**Respectfully submitted,**

**Allan Ciccone, Jr. Chair**



Ruthanne Fuller  
Mayor

City of Newton, Massachusetts  
Office of the Mayor

#243-18

Telephone  
(617) 796-1100

Fax

(617) 796-1113

TDD/TTY

(617) 796-1089

Email

rfuller@newtonma.gov

April 9, 2018

Honorable City Council  
Newton City Hall  
1000 Commonwealth Avenue  
Newton Centre, MA 02459

Ladies and Gentlemen:

I write to request that your Honorable Council docket for consideration a request to appropriate and expend the sum of \$1,210,000 from June 30, 2018 Certified Free Cash the purpose of funding the purchase of new Portable Radios for the Police and Fire Departments.

Specific details are attached. Thank you for your consideration of this matter.

Sincerely,

Ruthanne Fuller  
Mayor

RECEIVED  
NEWTON CITY CLERK  
2018 APR -9 PM 1:53  
DAVID A. OLSON, CMC  
NEWTON, MA 02459



Bruce A. Proia  
Chief

***CITY OF NEWTON, MASSACHUSETTS  
FIRE DEPARTMENT HEADQUARTERS***

***1164 Centre Street, Newton Center, MA 02459-1584  
Chief: (617) 796-2210 Fire Prevention: (617) 796-2230  
FAX: (617) 796-2211 EMERGENCY: 911***



Ruthanne Fuller  
Mayor

January 8, 2018

Maureen Lemieux  
CFO  
City of Newton  
1000 Commonwealth Ave  
Newton, MA 02459

Maureen,

I respectfully request to docket funding of \$1.21 Million Dollars to purchase new Portable radios for the Police and Fire Department in our continued pursuit of our desired outcome of unparalleled public safety. We have identified the need to replace and upgrade portable radios for both departments as a high priority item.

Last year Fire and Police came together as the Purple Team and identified a five-year plan to replace and upgrade aging equipment in the City. This year we plan to purchase new portable radios for both departments. The need to replace this equipment comes from the manufacturer, Motorola Solutions, stopping production (in 2013) and support (2018) for the equipment in use today. Because of the collaboration between the two departments we are buying equipment which uses the same accessories so a Firefighter and Police officer could exchange batteries. Something that we can't do today. Based on the age of the equipment in use today the Fire Department last upgraded radios in 2005/2006. We expect to get the same life span out of the equipment we are purchasing today.

Details on the purchase:

- Fire: 65 Portable Radios
  - 75 Carrying Cases & Speaker Microphones
  - 95 Vehicle Chargers, 29 Desk Chargers
  - 18 Rack Chargers
  - 156 Batteries
  - Engraving
- Police: 200 Portable Radios
  - 200 Carrying Cases & Speaker Microphones
  - 200 Desk Chargers
  - 250 Vehicle Chargers
  - 400 Batteries
  - Engraving

Thank you for your consideration to this matter.

  
Bruce Proia  
Chief of Department



Motorola Solutions, Inc.  
225 Cedar Hill Street, Suite 202  
Marlborough, MA 01752

July 19, 2017

Bruce Proia  
Fire Chief  
Newton Fire Department  
106 Waban Street  
Newton, MA 02458

Subject: Motorola Sole Source Justification

Dear Chief Proia:

Motorola Solutions, Inc. ("Motorola") exclusively sells its mission critical product portfolio directly to its state and local end users. The mission critical portfolio includes our APX series of portables and mobiles, ASTRO core products, MCC 7500 and 7100 dispatch console products and our G series fixed network infrastructure systems (analog and P25 radio communications infrastructure systems) as well as other systems and solutions. While Motorola also uses partners (Manufacturer's Representatives, referred to as or "MRs") to represent Motorola in the sale of the above mentioned solutions, all purchases are made through Motorola by the end user and typically through the Massachusetts ITT57 state contract. Newton Fire Department's account representation for Motorola is through Motorola directly and not through our MR channel.

Motorola would be pleased to provide any additional clarification that the Newton Fire Department may require. Any questions can be directed to your Motorola Senior Account Manager, Manny Litos, at (413) 523-0502 (office) or (860) 966-3822 (mobile).

We thank you for the opportunity to support the Newton, MA Fire Department with 'best in class' mission critical solutions.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Michael Sheridan'.

Michael Sheridan  
Area Sales Manager – New England Region



QUOTE-82612  
Newton Fire and Police - APX Portable  
Subscribers and Accessories

## Billing Address:

## Customer:

NEWTON, CITY OF  
Alex Chadis  
achadis@newtonma.gov  
(617) 735-7563

## Shipping Address:

NEWTON, CITY OF  
1321 WASHINGTON ST  
NEWTON 02465 0001  
NEWTON, MA 02465  
US

Quote Date:11/21/2017

Expiration Date:02/19/2018

Quote Created By:

Manny Litos  
Manny.Litos@  
MotorolaSolutions.com  
(860) 966-3822

Line #	Item Number	Description	Qty	List Price	Sale Price	Ext. Sale Price
	APX™ 6000 Series	APX6000 XE				
1	H98SDF9PW6BN	APX6000 UHF R2 MODEL 2.5 PORTABLE	65	\$3,026.00	\$2,148.46	\$139,649.90
1a	QA02006AA	ENH: APX6000XE RUGGED RADIO	65	\$800.00	\$568.00	\$36,920.00
1b	H869BZ	ENH: MULTIKEY	65	\$330.00	\$234.30	\$15,229.50
1c	Q387AY	ADD: MULTICAST VOTING SCAN	65	\$200.00	\$142.00	\$9,230.00
1d	QA01427AB	ALT: IMPACT GREEN HOUSING	65	\$25.00	\$17.75	\$1,153.75
1e	Q806BM	ADD: ASTRO DIGITAL CAI OPERATION	65	\$515.00	\$365.65	\$23,767.25
1f	H35BU	ADD: CONVENTIONAL OPERATION	65	\$500.00	\$355.00	\$23,075.00
1g	HA00022AB	ENH: 3 YR SFS COMPREHENSIVE	65	\$234.00	\$234.00	\$15,210.00
1h	QA09001AB	ADD: WIFI CAPABILITY	65	\$300.00	\$0.00	\$0.00
1i	QA09006AA	ADD: ADAPTIVE NOISE SUPPRESSION	65	\$150.00	\$106.50	\$6,922.50
2	NNTN8860A	CHARGER, SINGLE-UNIT, IMPRES 2, 3A, 115VAC, US/NA	29	\$112.50	\$77.62	\$2,250.98



Motorola's quote is based on and subject to the terms and conditions of the valid and executed written contract between Customer and Motorola (the "Underlying Agreement") that authorizes Customer to purchase equipment and/or services or license software (collectively "Products"). If no Underlying Agreement exists between Motorola and Customer, then Motorola's Standard Terms of use and Purchase Terms and Conditions govern the purchase of the Products.



QUOTE-82612  
Newton Fire and Police - APX Portable  
Subscribers and Accessories

Line #	Item Number	Description	Qty	List Price	Sale Price	Ext. Sale Price
3	NNTN7624C	CHARGER,CHR IMP VEH EXT NAEU KIT	95	\$429.00	\$208.11	\$19,770.45
4	PMMN4106A	REMOTE SPEAKER MIC, HIGH IMPACT GREEN	70	\$550.00	\$379.50	\$26,565.00
5	NNTN8930A	BATTERY PACK,LITHIUM ION,BATT IMPRES 2 LIION TIA4950 R IP68 2650T	91	\$155.00	\$106.95	\$9,732.45
6	LSV00Q00203A	DEVICE INSTALLATION ENGRAVING SERVICES FOR - 65X PORTABLES AND 78X BATTERIES	143	\$45.00	\$45.00	\$6,435.00
7	AY000222A01	CARRY ACCESSORY- CASE,APX7000 FIRE	75	\$56.00	\$38.64	\$2,898.00
8	NNTN8749A	CARRY ACCESSORY-BELT CLIP,KIT, BELT CLIP STUD (PACK OF 5)	15	\$75.00	\$51.75	\$776.25
9	AY000223A01	CARRY ACCESSORY- STRAP,WITH BUTTON BACK HOLDER	75	\$50.00	\$34.50	\$2,587.50
10	NNTN8844A	CHARGER, MULTI-UNIT, IMPRES 2, 6-DISP, NA/LA- PLUG, ACC USB CHGR	18	\$1,250.00	\$862.50	\$15,525.00
11	NLN7967A	MULTI-UNIT CHARGER WALL MOUNT KIT	18	\$21.00	\$14.49	\$260.82
	APX™ 6000 Series	APX6000				
12	H98SDF9PW6BN	APX6000 UHF R2 MODEL 2.5 PORTABLE	200	\$3,026.00	\$2,148.46	\$429,692.00
12a	H869BZ	ENH: MULTIKEY	200	\$330.00	\$234.30	\$46,860.00
12b	H885BK	ENH: 3 YR SFS LITE	200	\$90.00	\$90.00	\$18,000.00
12c	QA02017AD	ALT:UHFR2 GPS STUBBY ANTENNA (FAF52)	200	\$24.00	\$17.04	\$3,408.00
12d	Q806BM	ADD: ASTRO DIGITAL CAI OPERATION	200	\$515.00	\$365.65	\$73,130.00
12e	QA09001AB	ADD: WIFI CAPABILITY	200	\$300.00	\$0.00	\$0.00



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Subscribers and Accessories

Line #	Item Number	Description	Qty	List Price	Sale Price	Ext. Sale Price
12f	QA05574AA	ALT: TIA4950 BATT IMPRES 2 LIION 2650MAH (NNTN8930)	200	\$110.00	\$78.10	\$15,620.00
12g	Q387AY	ADD: MULTICAST VOTING SCAN	200	\$200.00	\$142.00	\$28,400.00
12h	H35BU	ADD: CONVENTIONAL OPERATION	200	\$500.00	\$355.00	\$71,000.00
12i	QA09006AA	ADD: ADAPTIVE NOISE SUPPRESSION	200	\$150.00	\$106.50	\$21,300.00
13	NNTN8860A	CHARGER, SINGLE-UNIT, IMPRES 2, 3A, 115VAC, US/NA	200	\$112.50	\$77.62	\$15,524.00
14	PMMN4099A	AUDIO ACCESSORY- REMOTE SPEAKER MICROPHONE,IMPRES WINDPORTING RSM, IP55	200	\$132.00	\$91.08	\$18,216.00
15	RLN6434A	APX TRAVEL CHARGER	200	\$111.00	\$76.59	\$15,318.00
16	LSV00Q00202A	DEVICE PROGRAMING CODEPLUG DEVELOPEMENT, PORTABLE PROGRAMMING AND PORTABLE RADIO ENGRAVING (POLICE RADIOS ONLY). FD TO PROGRAM FD PORTABLES.	200	\$120.00	\$120.00	\$24,000.00
17	PMLN5657B	CARRY ACCESSORY- CASE,APX6000 CC 2.75 SWLBL 2900&2150MAH	200	\$71.50	\$49.34	\$9,868.00
18	NNTN8844A	CHARGER, MULTI-UNIT, IMPRES 2, 6-DISP, NA/LA- PLUG, ACC USB CHGR	4	\$1,250.00	\$862.50	\$3,450.00
19	NNTN8930A	BATTERY PACK,LITHIUM ION,BATT IMPRES 2 LIION TIA4950 R IP68 2650T	200	\$155.00	\$106.95	\$21,390.00
20	HKN6184C	CBL ASSY:CABLE CH, PROGRAMMING, USB	4	\$52.00	\$0.00	\$0.00
21	PMKN4013C	PROGRAMMING, TEST & ALIGNMENT CABLE	4	\$94.00	\$0.00	\$0.00



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Line #	Item Number	Description	Qty	List Price	Sale Price	Ext. Sale Price
22	HKVN4289A	APX CPS DOWNLOAD - CURRENT VERSION Email addresses for Qty 2 licenses: achadis@newtonma.gov and ssmith@newtonma.gov.*	2	\$299.00	\$0.00	\$0.00

Grand Total

\$1,173,135.35

Notes:

- Additional information is required for one or more items on the quote for an order.
- This quote contains items with approved price exceptions applied against it.



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- Please ensure purchase order:
  - A. Indicates ITT57 MA State Contract
  - B. References this Motorola Quote Number
- 1. Terms subject to ITT57 as modified by the clarifications and terms/conditions. For a full list of terms/conditions please contact your Motorola representative.
- 2. PO Issued to Motorola Solutions Inc. must:
  - Be a valid Purchase Order (PO)/Contract/Notice to Proceed on Company Letterhead. Note: Purchase Requisitions c
  - Have a PO Number/Contract Number & Date
  - Identify "Motorola Solutions Inc." as the Vendor
  - Have Payment Terms or Contract Number
  - Be issued in the Legal Entity's Name
  - Include a Bill-To Address with a Contact Name and Phone Number
  - Include a Ship-To Address with a Contact Name and Phone Number
  - Include an Ultimate Address (only if different than the Ship-To)
  - Be Greater than or Equal to the Value of the Order
  - Be in a Non-Editable Format
  - Identify Tax Exemption Status (where applicable)
  - Include a Signature (as Required)
- 3. Quotes are exclusive of all installation and programming charges (unless expressly stated) and all applicable taxes.
- 4. Prices quoted are valid for thirty (30) days from the date of this quote.
- 5. Unless otherwise stated, payment will be due within forty-five day of invoice. Invoicing will occur concurrently with shipping.

MOTOROLA DISCLAIMS ALL OTHER WARRANTIES WITH RESPECT TO THE ORDERED PRODUCTS, EXPRESS OR IMPLIED INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. MOTOROLA'S TOTAL LIABILITY ARISING FROM THE ORDERED PRODUCTS WILL BE LIMITED TO THE PURCHASEPRICE OF THE PRODUCTS WITH RESPECT TO WHICH LOSSES OR DAMAGES ARE CLAIMED. IN NO EVENT WILLMOTOROLA BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.



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Quote Number: QU0000422978

Effective: 29 NOV 2017

Effective To: 29 DEC 2017

**Bill-To:**

NEWTON FIRE DEPT, CITY OF  
106 WABAN ST  
NEWTON, MA 02458  
United States

**Attention:**

**Name:** Alex Chadis  
**Email:** achadis@newtonma.gov  
**Phone:** (617) 735-7563

**Sales Contact:**

**Name:** Emmanuel Litos  
**Email:** PFGN36@motorolasolutions.com  
**Phone:** 8609663822

**Contract Number:** ITT57 MA STATE**Freight terms:** FOB Destination**Payment terms:** Net 45

Item	Quantity	Nomenclature	Description	List price	Your price	Extended Price
1	1	T7914A	RADIO MANAGEMENT ONLINE	-	-	-
(Notes)CUSTOMER PROVIDED, HARDWARE, INSTALLATION/CONFIGURATION AND NETWORK PROVISIONING						
1a	200	UA00049AA	ADD: RADIO MANAGEMENT LICENSES ONLINE	\$100.00	\$100.00	\$20,000.00

**Total Quote in USD****\$20,000.00****PLEASE ENSURE PURCHASE ORDER:**

- 1) INDICATES ITT57 MA STATE CONTRACT AND
- 2) REFERENCES THIS MOTOROLA QUxxx QUOTE NUMBER

1. Terms subject to ITT57 as modified by the clarifications and terms/conditions. For a full list of terms/conditions please contact you Motorola representative.

2. PO Issued to Motorola Solutions Inc. must:

- >Be a valid Purchase Order (PO)/Contract/Notice to Proceed on Company Letterhead. Note: Purchase Requisitions cannot be accepted
- >Have a PO Number/Contract Number & Date
- >Identify "Motorola Solutions Inc." as the Vendor
- >Have Payment Terms or Contract Number
- >Be issued in the Legal Entity's Name
- >Include a Bill-To Address with a Contact Name and Phone Number
- >Include a Ship-To Address with a Contact Name and Phone Number
- >Include an Ultimate Address (only if different than the Ship-To)
- >Be Greater than or Equal to the Value of the Order
- >Be in a Non-Editable Format
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- >Include a Signature (as Required)

3. Quotes are exclusive of all installation and programming charges (unless expressly stated) and all applicable taxes.

4. Prices quoted are valid for thirty(30) days from the date of this quote.

5. Unless otherwise stated, payment will be due within forty five day of invoice. Invoicing will occur concurrently with shipping. MOTOROLA DISCLAIMS ALL OTHER WARRANTIES WITH RESPECT TO THE ORDERED PRODUCTS, EXPRESS OR IMPLIED INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. MOTOROLA'S TOTAL LIABILITY ARISING FROM THE ORDERED PRODUCTS WILL BE LIMITED TO THE PURCHASE PRICE OF THE PRODUCTS WITH RESPECT TO WHICH LOSSES OR DAMAGES ARE CLAIMED. IN NO EVENT WILL MOTOROLA BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

# APX™ 6000 SINGLE-BAND PORTABLE RADIO



From day one, the single-band APX 6000 P25 portable radio has delivered legendary APX ruggedness and reliability, without compromising on the form factor or features required for routine activities and extreme emergencies. Now, as the ever-increasing needs of public safety personnel grow, we are evolving the APX 6000 to support newer technologies like Wi-Fi®, Adaptive Audio Engine, and Bluetooth® 4.0 wireless technology. These advances help improve the operational efficiency and response time of public safety agencies while enhancing the safety of personnel and communities.

## VOICE AND DATA, ALL AT ONCE

Update your radio fleet without interrupting voice communications with secure Wi-Fi. This dramatically improves the speed of configuring new codeplugs, firmware and software features over-the-air via Radio Management\*. Agencies can pre-provision up to 20 secure Wi-Fi hotspots so personnel can easily access updates at the facility or in the field.

## HEAR AND BE HEARD

The APX 6000 is equipped with a 3-watt speaker, 3 integrated microphones and the Adaptive Audio Engine. This changes the level of noise suppression, microphone gain, windporting and speaker equalization to produce clear and loud audio in any environment.

## SEAMLESS ON-SCENE COMMUNICATION

Ensure fast and seamless communication and collaboration across all responders arriving on a scene. Mission Critical Geofence automatically changes a radio's active talkgroup based on its GPS location and an agency-defined virtual barrier. For example, an incident commander can create a geofence around the 3-block radius of a burning building so that all arriving personnel are automatically placed in the same talkgroup.

## EMERGENCY FIND ME

Bluetooth 4.0 places a wide range of wireless accessories at your disposal and provides personnel with an added level of security by improving response time in emergencies. With Emergency Find Me, a Bluetooth-enabled beacon signal guides other Bluetooth-enabled APX radios within range to assist the user in distress.



\*Radio Management application simplifies APX radio configuration and management by programming up to 16 radios at one time and tracking which radios have been successfully programmed, providing a clear view of the entire radio fleet and a codeplug history for each radio.



## SPECIFICATIONS

### RF BANDS

- 700/800 MHz, VHF, UHF Range 1 & UHF Range 2
- 9600 Baud Digital APCO P25 Phase 1 FDMA and Phase 2 TDMA Trunking
- 3600 Baud SmartNet®, SmartZone®, SmartZone, Omnilink Trunking
- Digital APCO 25, Conventional, Analog MDC 1200, Quick Call II System Configurations Narrow and Wide Bandwidth Digital Receiver (6.25 kHz Equivalent/25/20/12.5 kHz)<sup>1</sup>

### STANDARD FEATURES

- Mission Critical Wireless Bluetooth® 4.0 (LE)<sup>2</sup>
- Emergency Find Me<sup>2</sup>
- ASTRO® 25 Integrated Voice & Data
- Integrated GPS/GLONASS for Outdoor Location Tracking
- Intelligent Priority Scan
- Voice Announcements
- Instant Recall
- ISSI 8000 Roaming
- Radio Profiles
- Dynamic Zone
- Intelligent Lighting
- Single-Key ADP Encryption
- IP68 submersion (2 meters, 2 hours)
- IMPRES 2 Battery (PMNN4485)
- Text Message
- Software Key

### PROGRAMMING

- Utilizes Windows 7 & 8 Customer Programming Software (CPS) with Radio Management<sup>3</sup>

### ADAPTIVE AUDIO ENGINE (OPTIONAL)

- 3-W Speaker with Adaptive Equalization
- Adaptive Dual-Sided Operation
- Adaptive Noise Suppression Intensity
- Adaptive Gain Control
- Adaptive Windporting

### OPTIONAL FEATURES

- Wi-Fi 802.11 b/g/n
- Data Modem Tethering
- LEX L10 Collaboration
- RFID Volume Knob
- Multi-key for 128 keys and Multi-Algorithm
- Programming Over Project 25 (OTAP)
- Over the Air Rekey (OTAR)
- Digital Tone Signaling
- Mission Critical Geofence
- P25 Authentication
- Man Down Capability
- High Impact Green and Public Safety Yellow Colored Housing Options
- Rugged Option: IP68 (2m/4hr), Mil Std 512.X Delta - T<sup>4</sup>
- Listed by UL to the standards ANSI/TIA 4950-A and CAN/CSA C22.2 NO. 157-92 Classification Rating: Class I, Division 1, Groups C, D; Class II, Division 1, Group E, F, G; Class III, Hazardous (Classified) Locations. ANSI/ISA 12.12.01-2015 and CAN/CSA C22.2 No. 213-15; Class I, Division 2, Groups A, B, C, D; T3C. Tamb = -25° C to +60° C. when used with Motorola Battery: NNTN8921A NNTN8930A 7.4V

<sup>1</sup> Per the FCC Narrowbanding rules, new products (APX6000 UHF1, UHF2 ) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25 KHz for United States - State & Local Markets only.

<sup>2</sup> Compatible with BT 2.1, HSP, PAN, DUN and SPP Profiles found in off-the-shelf Bluetooth accessories and Bluetooth 4.x

<sup>3</sup> CPS version R12.00.00 and greater ordered after June 2014 will only support Windows 7 and 8

<sup>4</sup> Radios meet industry standards (IPX7) for submersion.

## TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

		700/800	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits	700 MHz	763-776, 793-806 MHz	136-174 MHz	380-470 MHz	450-520 MHz
	800 MHz	806-824, 851-870 MHz			
Channel Spacing		25/20/12.5 kHz	25/20/12.5 kHz	25/20/12.5 kHz	25/20/12.5 kHz
Maximum Frequency Separation		Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power Adj <sup>1</sup>		1-3 Watts Max	1-6 Watts Max	1-5 Watts Max	1-5 Watts
Frequency Stability <sup>1</sup> (-30°C to +60°C; +25°C Ref.)		±0.00010 %	±0.00010 %	±0.00010 %	±0.00010 %
Modulation Limiting <sup>1</sup>		±5 kHz / ±4 kHz / ±2.5 kHz	±5 kHz / ±4 kHz / ±2.5 kHz	±5 kHz / ±4 kHz / ±2.5 kHz	±5 kHz / ±4 kHz / ±2.5 kHz
Emissions (Conducted and Radiated) <sup>1</sup>		-75 dB	-75 dB	-75 dB	-75 dB
Audio Response <sup>1</sup>		+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB
FM Hum & Noise	25k	-52 dB	-55 dB	-52 dB	-52 dB
	25.5k	-47 dB	-50 dB	-47 dB	-46 dB
Audio Distortion <sup>1</sup>	700 MHz 800 MHz	1.00 %	1.00 %	1.00 %	1.00 %

**BATTERIES FOR APX 6000**

Battery Capacity / Type	Dimensions (HxWxD)	Weight	Battery Part Number	Battery Capacity
Li-Ion IMPRES 2 2550mAh <sup>1</sup>	3.4" x 2.3" x 1.5"	5.0 oz	PMNN4485	2550 mAh
Li-Ion IMPRES 2 3400mAh	3.4" x 2.3" x 1.7"	6.5 oz	PMNN4486	3400 mAh
Li-Ion IMPRES 2 4850mAh	5" x 2.3" x 1.7"	11.0 oz	PMNN4487	4850 mAh
Li-Ion IMPRES 2 5100mAh	5" x 2.3" x 1.7"	11.0 oz	PMNN4494	5100 mAh
Li-Ion IMPRES 2 2650 mAh <sup>2</sup>	3.4" x 2.3" x 1.7"	5.7 oz	NNTN8930	2650 mAh
Li-Ion IMPRES 2 4500mAh <sup>2</sup>	5" x 2.3" x 1.7"	11.0 oz	NNTN8921	4500 mAh
Li-Ion IMPRES 2, 3100 mAh, TIA 4950-A, IP68	3.4" x 2.3" x 1.7"	7.1 oz	PMNN4547	3100 mAh

<sup>1</sup> The standard shipping battery for the APX6000

<sup>2</sup> HAZLOC approved.

**RADIO MODELS**

	MODEL 1.5	MODEL 2.5	MODEL 3.5
Display	Full bitmap monochromatic LCD top display 1 line text x 8 characters 1 line of icons No menu support Multi-color backlight	Top display plus: Full bitmap color LCD display 4 lines of text x 14 characters 2 lines of icons 1 menu line x 3 menus White backlight	Top display plus: Full bitmap color LCD display 4 lines of text x 14 characters 2 lines of icons 1 menu line x 3 menus White backlight
Keypad	none	Backlit keypad 3 soft keys 4 direction Navigation key Home and Data buttons	Backlit keypad 3 soft keys 4 direction Navigation key 4x3 keypad Home and Data buttons
Channel Capacity <sup>1</sup>	96	1000	1000
FLASHport Memory	64 MB	64 MB	64 MB
700/800 MHz (763-870 MHz)	H98UCD9PW5BN	H98UCF9PW6BN	H98UCH9PW7BN
VHF (136-174 MHz)	H98KGD9PW5BN	H98KGF9PW6BN	H98KGH9PW7BN
UHF Range 1 (380-470 MHz)	H98QDD9PW5BN	H98QDF9PW6BN	H98QDH9PW7BN
UHF Range 2 (450-520 MHz)	H98SDD9PW5BN	H98SDF9PW6BN	H98SDH9PW7BN
Buttons & Switches	Large PTT button ■ Angled On/Off volume control ■ Orange emergency button ■ 16 position top-mounted rotary switch ■ 2-position concentric switch ■ Multi-color backlight ■ 3-position toggle switch ■ 3 programmable side buttons		

**Regulatory Information**

	FCC ID	Industry Canada
700/800 (764-869 MHz)	AZ489FT7086	109U-89FT7086
VHF (136-174 MHz)	AZ489FT7087	109U-89FT7087
UHF Range 1 (380-470 MHz)	AZ489FT7077	109U-89FT7077
UHF Range 2 (420-520 MHz)	AZ489FT7085	109U-89FT7085

**FCC Emissions Designators**

FCC Emissions Designators 11K0F3E, 16K0F3E, 8K10F1D, 8K10F1E, 8K10F1W, 20K0F1E<sup>2</sup>

**Power Supply**

Power Supply One rechargeable Li-Ion IMPRES 2 2550mAh battery standard (PMNN4485), with alternate battery options available.

<sup>1</sup> Enhancement package available

<sup>2</sup> Per the FCC Narrowbanding rules, new products (APX6000 UHFRR1, UHFRR2 ) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25 kHz for United States - State & Local Markets only.

RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS					
		700/800	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits	700 MHz 800 MHz	763-776 MHz 851-870 MHz	136-174 MHz	380-470 MHz	450-520 MHz
Channel Spacing		25/20/12.5 kHz	25/20/12.5 kHz	25/20/12.5 kHz	25/20/12.5 kHz
Maximum Frequency Separation		Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Audio Output Power at Rated <sup>1</sup>		500 mW	500 mW	500 mW	500 mW
Analog Sensitivity <sup>2</sup>	12 dB SINAD	0.25 µV	0.17 µV	0.224 µV	0.203 µV
Digital Sensitivity <sup>3</sup>	1% BER (800 MHz)	0.375 µV	0.243 µV	0.298 µV	0.296 µV
	5% BER	0.24 µV	0.15 µV	0.200 µV	0.204 µV
Selectivity <sup>1</sup>	25 kHz channel	-76 dB	-78 dB	-77 dB	-76 dB
	12.5 kHz channel	-70 dB	-73 dB	-67 dB	-67 dB
Intermodulation		-80.1 dB	-80.2 dB	-80.3 dB	-80.2 dB
Spurious Rejection		-75 dB	-78 dB	-80.5 dB	-80.8 dB
FM Hum and Noise	25 kHz	-54 dB	-54.3 dB	-53.5 dB	-52.5 dB
	12.5 kHz	-79 dB	-50.1 dB	-47.5 dB	-47.3 dB
Audio Distortion at Rated <sup>1</sup>		0.90%	0.90%	0.70%	0.70%

1 Measured in the analog mode per TIA / EIA 603 under nominal conditions

2 Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.

3 Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions.



PORTABLE MILITARY STANDARDS 810 C, D, E , F & G										
	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G	
	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II	500.5	II
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Basic Hot	501.5	I/A1, II/A2
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1	502.5	I/C3, II/C1
Temperature Shock	503.1	I	503.2	I/A1C3	503.3	I/A1C3	503.4	I	503.5	I/C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.5	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.5	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	1 Proc	507.5	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	1 Proc	509.5	1 Proc
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.5	I
Blowing Sand	1 Proc	1 Proc	510.2	II	510.3	II	510.4	II	510.5	II
Immersion	512.1	I	512.2	I	512.3	I	512.4	I	512.5	I
Vibration	514.2	VIII/F, Curve-W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24	514.6	I/24
Shock	516.2	I, III, V	516.3	I, V, VI	516.4	I, V, VI	516.5	I, V, VI	516.6	I, V, VI
Shock (Drop)	516.2	II	516.2	IV	516.4	IV	516.5	IV	516.6	IV



**DIMENSIONS OF THE RADIOS WITHOUT BATTERY**

Length	5.47 in	139 mm
Width Push-To-Talk button	2.39 in	60.7 mm
Depth Push-To-Talk button	1.40 in	35.6 mm
Width Top	2.98 in	75.7 mm
Depth Top	1.58 in	40.1 mm
Depth Bottom of Battery	1.24 in	31.5 mm
Weight of the radios without battery	10.9 oz	309 g

**ENCRYPTION**

Supported Encryption Algorithms	ADP, AES, DES, DES-XL, DES-OFB, DVP-XL
Encryption Algorithm Capacity	8
Encryption Keys per Radio	Module capable of storing 1024 keys. Programmable for 64 Common Key Reference (CKR) or 16 Physical Identifier (PID)
Encryption Frame Re-sync Interval	P25 CAI 300 mSec
Encryption Keying	Key Loader
Synchronization	XL – Counter Addressing OFB – Output Feedback
Vector Generator	National Institute of Standards and Technology (NIST) approved random number generator
Encryption Type	Digital
Key Storage	Tamper protected volatile or non-volatile memory
Key Erasure	Keyboard command and tamper detection
Standards	FIPS 140-2 Level 3 FIPS 197

**GPS/GPS/GNSS SPECIFICATIONS**

Constellations	GPS & GLONASS
Tracking Sensitivity	-164 dBm
Accuracy <sup>2</sup>	<5 meters (95%)
Cold Start	<60 seconds (95%)
Hot Start	<5 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted)

**RUGGED SPECIFICATIONS**

Leakage (submersion)	MIL-STD-810 C, D, E, F and G Method 512.X Procedure I, IP68 (2 meters, 4 hours)
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**HOUSING COLOR**

Black (Standard), Public Safety Yellow, and High Impact Green

**ENVIRONMENTAL SPECIFICATIONS**

Operating Temperature <sup>1</sup>	-30 °C to +60 °C
Storage Temperature <sup>1</sup>	-50 °C to +85 °C
Humidity Per MIL-STD	ESD IEC 801-2 KV
Water and Dust Intrusion	IP68 (2 meters, 4 hours)

<sup>1</sup> Temperatures listed are for radio specifications. Battery storage is recommended at 25 °C, ±5 °C to ensure best performance.

<sup>2</sup> Measured conductively with >6 satellites visible at a nominal -130 dBm signal strength. Specs provided are 95th percentile values.

**EMISSION DESIGNATORS**

LMR: 8K10F1D, 8K10F1E, 8K10F1W, 11K0F3E, 16K0F3E, 20K0F1E

Bluetooth: 852KF1D, 1M17F1D, 1M19F1D, 1M04F1D

WLAN (Wi-Fi): 13M7G1D, 17M0D1D, 18M1D1D

**WIRELESS CONNECTIVITY AND SECURITY**

Frequency Range/Bandsplits:

Bluetooth: 2402 - 2480 MHz, WLAN (Wi-Fi): 2400 - 2483.5 MHz

WLAN (Wi-Fi) 802.11 b/g/n supports WPA-2, WPA, WEP security protocols; radio can be pre-provisioned with up to 20 SSIDs<sup>1</sup>

Mission Critical Wireless Bluetooth 2.1 uses 96 bit encryption for pairing & 128 bit encryption for voice, signaling and data. The radio BT supports up to 6 data connections and 1 audio connection

Bluetooth 4.0 Low Energy uses 128-bit AES-CCM encryption

<sup>1</sup> 2400 - 2483.5 MHz for EMEA region and includes guardband.  
Channels 1 – 11 used for FCC/IC region.



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Ruthanne Fuller  
Mayor

City of Newton, Massachusetts  
Office of the Mayor

#244-18

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(617) 796-1113

TDD/TTY  
(617) 796-1089

Email  
rfuller@newtonma.gov

April 9, 2018

Honorable City Council  
Newton City Hall  
1000 Commonwealth Avenue  
Newton Centre, MA 02459

Ladies and Gentlemen:

I write to request that your Honorable Council docket for consideration a request to authorize the appropriation and expenditure of \$600,000 from June 30, 2017 Certified Free Cash to Account # 0121002-513001 Fire Department Overtime.

It has taken longer than anticipated to secure placements at the Fire Academy. As a result, the City has been forced to pay overtime for coverage of positions, while having several personnel in the academy.

Thank you for your consideration of this matter.

Sincerely,

Ruthanne Fuller  
Mayor

RECEIVED  
Newton City Clerk  
2018 APR -9 PM 1:53  
David A. Olson, CMC  
Newton, MA 02459



Bruce A. Proia  
Chief

**CITY OF NEWTON, MASSACHUSETTS**  
**FIRE DEPARTMENT HEADQUARTERS**

**1164 Centre Street, Newton Center, MA 02459-1584**  
**Chief: (617) 796-2210 Fire Prevention: (617) 796-2230**  
**FAX: (617) 796-2211 EMERGENCY: 911**



Ruthanne Fuller  
Mayor

March 9, 2018

Maureen Lemieux  
CFO  
City of Newton  
1000 Commonwealth Ave  
Newton, MA 02459

Maureen,

I respectfully request to docket funding of \$400,000 to cover overtime costs for the Fire Department for the remainder of fiscal year FY18.

The winter manning clause in the CBA requires an extra person on each engine company during the time frame of January 1 through March 31. We are also still not up to full capacity on our roster for manpower; it is a six month wait for entry into the Fire Academy. As an example the four positions funded for the HDR that became effective October 1 will not be assigned to an apparatus until mid-June.

Thank you for your consideration to this matter.

A handwritten signature in black ink, appearing to read "BR".

Bruce Proia  
Chief of Department



Ruthanne Fuller  
Mayor

City of Newton, Massachusetts  
Office of the Mayor

#250-18

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April 9, 2018

Honorable City Council  
Newton City Hall  
1000 Commonwealth Avenue  
Newton Centre, MA 02459

RECEIVED  
Newton City Clerk  
2018 APR - 9 PM 1:52  
DAVID A. OLSON, CMC  
NEWTON, MA 02459

Ladies and Gentlemen:

In accordance with Section 5-1 of the City of Newton Charter, I write to request that your Honorable Council docket for consideration the Fiscal Year 2019 Mayor's Recommended Operating Budget in the amount of \$412,513,389.

Thank you for your consideration of this matter.

Sincerely,

A handwritten signature in cursive script that reads "Ruthanne Fuller".

Ruthanne Fuller  
Mayor



SETTI D. WARREN  
MAYOR

**City of Newton, Massachusetts**  
**Office of the Mayor**

#63-18

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E-mail  
swarren@newtonma.gov

October 13, 2017

Honorable City Council  
Newton City Hall  
1000 Commonwealth Avenue  
Newton Centre, MA 02459

Ladies and Gentlemen:

In accordance with Section 5-3 of the City of Newton Charter, I write to request that your Honorable Council docket for consideration the Fiscal Year 2019 – Fiscal Year 2023 Capital Improvement Plan.

Thank you for your consideration of this matter.

Sincerely,

A handwritten signature in cursive script, appearing to read "Setti D. Warren".

Setti D. Warren  
Mayor

RECEIVED  
Newton City Clerk  
2017 OCT 13 PM 4:40  
David A. Olson, CMC  
Newton, MA 02459



Ruthanne Fuller  
Mayor

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Office of the Mayor

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April 9, 2018

Honorable City Council  
Newton City Hall  
1000 Commonwealth Avenue  
Newton Centre, MA 02459

Ladies and Gentlemen:

In accordance with Section 5-1 of the City of Newton Charter, I write to request that your Honorable Council docket for consideration the submission of the FY2019-FY2023 Supplemental Capital Improvement Plan.

Thank you for your consideration of this matter.

Sincerely,

Ruthanne Fuller  
Mayor

RECEIVED  
Newton City Clerk  
2018 APR - 9 PM 1:52  
David A. Olson, CMC  
Newton, MA 02459