

Ordering Guide

VRX1000 – Vehicle Radio Extender

8A087X01 Revision 4.2

November 24, 2020



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Ordering Instructions – PLEASE READ CAREFULLY

If only ordering spares or kits, proceed to step 8. If only ordering services, proceed to step 9.

1. Select mobile radio type (Section 1).
2. Select base transceiver type (Section 2). NOTE: base transceiver provides analog only operation. Select appropriate option in Section 3 if P25 operation is required.
3. Select transceiver functional options as applicable to your intended operation (Section 3).
4. If In-Band frequency operation is required, select the appropriate In-Band option (Section 4). NOTE the frequency requirements in Section 4 to ensure your frequency plan meets the operating requirements.
5. If an In-Band frequency option was selected in Step 4, note the default is flat mount configuration. If required, select the option In-Band mounting option in Section 8.
6. If applicable, select additional hardware options (Section 5 and 8).
7. Select required antennas (Section 6 or Section 7).
8. Select spares or kits as required (Section 8).
9. Select optional services as required (Section 9).

Important Notes

1. Only the frequency bands shown in Section 4 are available as standard configurations. For custom filtering, please contact Futurecom at sales@futurecom.com.
2. In-Band Models – VRX1000 Frequencies must be specified when placing an order since the filters are custom tuned and cannot be re-tuned in the field. The In-Band filters placed on the APX Radio antenna port have 50 Watts maximum transmit power rating. The APX Mobile radio Tx power must not exceed 50 Watts.
3. Standard VRX1000 delivery time is 10-12 weeks after receipt of a purchase order and a valid frequency plan. Frequency information must be accurate and in accordance with the frequency plan requirements described in this document in order to avoid delays.
4. The Motorola Mobile Radios and Motorola accessories are NOT included with the VRX1000.
5. VRX1000 models include standard 3 ft long interconnecting cable (Mobile Radio to VRX1000). Longer cables (up to 25 ft) are available.
6. The Motorola Mobile Radios may require firmware upgrades in order to operate with the VRX1000. Motorola Radio Firmware Upgrades are to be purchased directly from Motorola. **Please note, to ensure full compatibility and make use of the latest available feature set, it is recommended that the APX Mobile Radio and VRX1000 Firmware are updated to the latest Motorola certified firmware versions.** APX Mobile Radios operating as the host mobile for the VRX1000 require subscriber option **GA00631** for operation.
7. APX Portable Radios operating through a VRX1000, utilizing VRX1000 P25 Enhanced feature set require subscriber option **QA00631**. No special option is required for XTS Portable Radios.
8. For all sales inquiries, please contact Futurecom sales at sales@futurecom.com.
9. **Subscribe to our newsletter if you want to be informed about news releases and updates. Please visit <http://futurecom.com/support/newsletter/>**



Frequency plans that do not meet Futurecom's specified frequency separation are custom orders. Please contact Futurecom to determine if custom a frequency plan is viable and for quotations on viable plans. sales@futurecom.com

1. Mobile Radio Type

The VRX1000 is compatible with the following Motorola Mobile Radios:

- Remote Mount **APX™ 4500** or **APX™ 2500** with O2 Control Head, single band -Select Option TT05715AA
- Remote Mount **APX™ 5500** with any Control Head, single band -Select Option TT05715AA
- Remote Mount **APX™ 6500** with any Control Head, single band -Select Option TT05715AA
- Remote Mount **APX™ 7500** with any Control Head, single band -Select Option TT05715AA
- Remote Mount **APX™ 7500** with any Control Head, dual band -Select Option TT05716AA
- Remote Mount **APX™ 8500** with any Control Head, all band -Select Option TT06279AA

Depending on the isolation available between the APX™ 8500 Mobile and VRX1000 antennas, one of the following kits may be required.

- Dual Triplexer Kit -Select Option DDN2657A
- Single Triplexer Relay Kit -Select Option DDN2658A
- Dual Triplexer Relay Kit -Select Option DDN2659A
- Relay Kit -Select Option DDN2808A

Please reference the interface kit selection tool APX8500™ at:

<https://www.futurecom.com/support/documentation-software/dvr-lx-dvr-vrx1000/>



When the VRX1000 is Connected to the APX™ 8500, The Motorola option number **GA01515** is required at time of order or **KT000247A01** as an accessory if ordered after original shipment. This Y cable splits the J600 into J600 and DB25. (Sold exclusively through Motorola Solutions, Inc.)

2. VRX1000 Base Transceiver Frequency Options

VRX1000 136-174 MHz

<u>ORDER CODE</u>	<u>ITEM</u>	<u>INCLUDES</u>	<u>PREREQUISITES</u>	<u>NOTES</u>
TT2792A	Base Order Code VHF Cross Band VRX1000 – Analog	DDN1963A – Mounting Kit DDN1966A – DC Power Cable DDN1969A – VRX to Mobile Radio Control Cable 3 ft (standard)	Mobile Radio option GA00631	APX Mobile Radio operation with VRX1000 Enabled is limited to UHF and/or 700/800 unless In- Band option is also ordered; see Section 4 for In-Band options. Analog only ; see Section 3 for P25 operation and other options.

VRX1000 380-512 MHz

<u>ORDER CODE</u>	<u>ITEM</u>	<u>INCLUDES</u>	<u>PREREQUISITES</u>	<u>NOTES</u>
TT2793A	Base Order Code UHF Cross Band VRX1000 – Analog	DDN1963A – Mounting Kit DDN1966A – DC Power Cable DDN1969A – VRX to Mobile Radio Control Cable 3 ft (standard)	Mobile Radio option GA00631	APX Mobile Radio operation with VRX1000 Enabled is limited to VHF and/or 700/800 unless In- Band option is also ordered; see Section 4 for In-Band options. Analog only ; see Section 3 for P25 operation and other options.

VRX1000 769-775 MHz / 851-869 MHz

<u>ORDER CODE</u>	<u>ITEM</u>	<u>INCLUDES</u>	<u>PREREQUISITES</u>	<u>NOTES</u>
TT2794A	Base Order Code 700 & 800 MHz Cross Band VRX1000 – Analog	DDN1963A – Mounting Kit DDN1966A – DC Power Cable DDN1969A – VRX to Mobile Radio Control Cable 3 ft (standard)	Mobile Radio option GA00631	APX Mobile Radio operation with VRX1000 Enabled is limited to UHF and/or VHF unless In-Band option is also ordered; see Section 4 for In-Band options. Analog only ; see Section 3 for P25 operation and other options.

3. VRX1000 Transceiver Functional Options

FACTORY INSTALLED LICENSED FEATURES			
<u>ORDER CODE</u>	<u>ITEM</u>	<u>PREREQUISITES</u>	<u>NOTES</u>
TT05951AA	P25 Operation Factory Installed	TT2792A Or TT2793A Or TT2794A Requires that the APX Mobile interfaced to the VRX1000 is on a P25 FDMA or P25 conventional channel	Includes ADP encryption pass-through. Refer to Futurecom functional description for further information. Required for FDMA Conventional Operation Prerequisite for FDMA or TDMA Trunking
TT05952AA	P25 AES/DES Encryption Factory Installed	TT05951AA	Enables the transparent pass through of P25 AES/DES encrypted calls between the P25 infrastructure, system subscriber units, the mobile radio, portable radios on the VRX1000 channel. P25 OTAR is supported via the VRX1000 on P25 Trunked FNE; P25 OTAR is NOT supported on conventional P25 FNE.

FACTORY INSTALLED LICENSED FEATURES			
<u>ORDER CODE</u>	<u>ITEM</u>	<u>PREREQUISITES</u>	<u>NOTES</u>
TT05953AA	P25 Enhanced Trunking Features Factory Installed	TT05951AA & TT05952AA Portable radio option QA00631	Allows the use of "DVR / VRX Enabled" portable radios (such as APX with QA00631) and provides the associated trunking features through the VRX1000. Note: End to end digital operation on TDMA talkgroups requires this option. For information on what portable radios can be "DVR / VRX Enabled" and operating requirements for end to end Digital on TDMA trunking, please refer to the VRX1000 Functional Description.
TT06566AA	Authentication – Factory Installed	TT05951AA – P25 Operation TT05952AA – AES/DES Encyrption TT05953AA – P25 Trunking Features Requires VRX1000 software release 1.51 or greater Requires mobile and portable to be running compatible firmware version (R20.02.00) Cost of subscriber upgrade and any required options not included in kit.	Portable Link Layer authentication through the VRX1000 Prevents unauthorized portables accessing the radio network (per unit)

FACTORY INSTALLED LICENSED FEATURES			
<u>ORDER CODE</u>	<u>ITEM</u>	<u>PREREQUISITES</u>	<u>NOTES</u>
TT06569AA	RM-OTAP – Factory Installed	<p>Requires VRX1000 software release 1.60 or greater</p> <p>Requires mobile and portable to be running compatible firmware version (R21.01.00) Cost of subscriber upgrade and any required options not included in kit.</p>	<p>This feature enables operators to perform firmware & configuration updates on each VRX1000 unit using Motorola Radio Management via the mobile radio.</p>
TT3816A	PSU Conventional Scan – Factory Installed	<p>TT05951AA – P25 Operation</p> <p>TT05952AA – AES/DES Encryption</p> <p>TT05953AA – P25 Trunking Features</p> <p>Requires VRX1000 software release 1.61 or greater</p> <p>Requires mobile and portable to be running compatible firmware version (R21.20.00) Cost of subscriber upgrade and any required options not included in kit.</p> <p>PSU will need to have both QA00631 (DVRs Enabled PSU) & HA00677 (DVRs PSU Conventional Scan enabled)</p>	<p>PSU conventional scan feature enables an enhanced PSU to support conventional scan while the Futurecom repeater is configured as its system type.</p>

FIELD UPGRADE LICENSED FEATURES			
<u>ORDER CODE</u>	<u>ITEM</u>	<u>PREREQUISITES</u>	<u>NOTES</u>
DDN1960A	P25 Operation Field Upgrade	TT2792A Or TT2793A Or TT2794A Requires that the APX Mobile interfaced to the VRX1000 is on a P25 FDMA or P25 conventional channel	Includes ADP encryption pass-through. Refer to Futurecom functional description for further information. Required for FDMA Conventional Operation Prerequisite for FDMA or TDMA Trunking
DDN1961A	P25 AES/DES Encryption Field Upgrade	TT05951AA or DDN1960A	Enables the transparent pass through of P25 AES/DES encrypted calls between the P25 infrastructure, system subscriber units, the mobile radio, portable radios on the VRX1000 channel. P25 OTAR is supported via the VRX1000 on P25 Trunked FNE; P25 OTAR is NOT supported on conventional P25 FNE.

FIELD UPGRADE LICENSED FEATURES			
<u>ORDER CODE</u>	<u>ITEM</u>	<u>PREREQUISITES</u>	<u>NOTES</u>
DDN1962A	P25 Enhanced Trunking Features Field Upgrade	TT05951AA & TT05952AA or DDN1960A & DDN1961A Portable radio option QA00631	Allows the use of "DVR / VRX Enabled" portable radios (such as APX with QA00631) and provides the associated trunking features through the VRX1000. Note: End to end digital operation on TDMA talkgroups requires this option. For information on what portable radios can be "DVR / VRX Enabled" and operating requirements for end to end Digital on TDMA trunking, please refer to the VRX1000 Functional Description.
DDN3116A	Authentication Field Upgrade	TT05951AA – P25 Operation TT05952AA – AES/DES Encryption TT05953AA – P25 Trunking Features Or DDN1960A, DDN1961A, DDN1962A	Portable Link Layer authentication through the VRX1000 Prevents unauthorized portables accessing the radio network (per unit)

FIELD UPGRADE LICENSED FEATURES			
<u>ORDER CODE</u>	<u>ITEM</u>	<u>PREREQUISITES</u>	<u>NOTES</u>
		<p>Requires VRX1000 software release 1.51 or greater</p> <p>Requires mobile and portable to be running compatible firmware version (R20.02.00) Cost of subscriber upgrade and any required options not included in kit.</p>	
DDN3119A	RM-OTAP – Field Upgrade	<p>Requires VRX1000 software release 1.60 or greater</p> <p>Requires mobile and portable to be running compatible firmware version (R21.01.00) Cost of subscriber upgrade and any required options not included in kit.</p>	This feature enables operators to perform firmware & configuration updates on each VRX1000 unit using Motorola Radio Management via the mobile radio.
DDN3174A	PSU Conventional Scan – Field Upgrade (Bulk Order)	<p>TT05951AA – P25 Operation</p> <p>TT05952AA – AES/DES Encryption</p> <p>TT05953AA – P25 Trunking Features</p> <p>Requires VRX1000 software release 1.61 or greater</p> <p>Requires mobile and portable to be running compatible firmware version (R21.20.00) Cost of subscriber upgrade</p>	<p>PSU conventional scan feature enables an enhanced PSU to support conventional scan while the Futurecom repeater is configured as its system type.</p> <p>Note: To qualify for bulk order, all serial numbers must be provided to Futurecom at the time of order. The PSU Conventional Scan Feature License will be applicable only to the</p>

FIELD UPGRADE LICENSED FEATURES			
<u>ORDER CODE</u>	<u>ITEM</u>	<u>PREREQUISITES</u>	<u>NOTES</u>
		<p>and any required options not included in kit.</p> <p>PSU will need to have both QA00631 (DVRs Enabled PSU) & HA00677 (DVRs PSU Conventional Scan enabled)</p>	<p>serial numbers provided. Should the Customer fail to provide the serial numbers for all units at the time of order, the Customer must place a new order for DDN3174A when the remaining serial numbers are available.</p>

4. VRX1000 In-Band Standard Frequency Plans

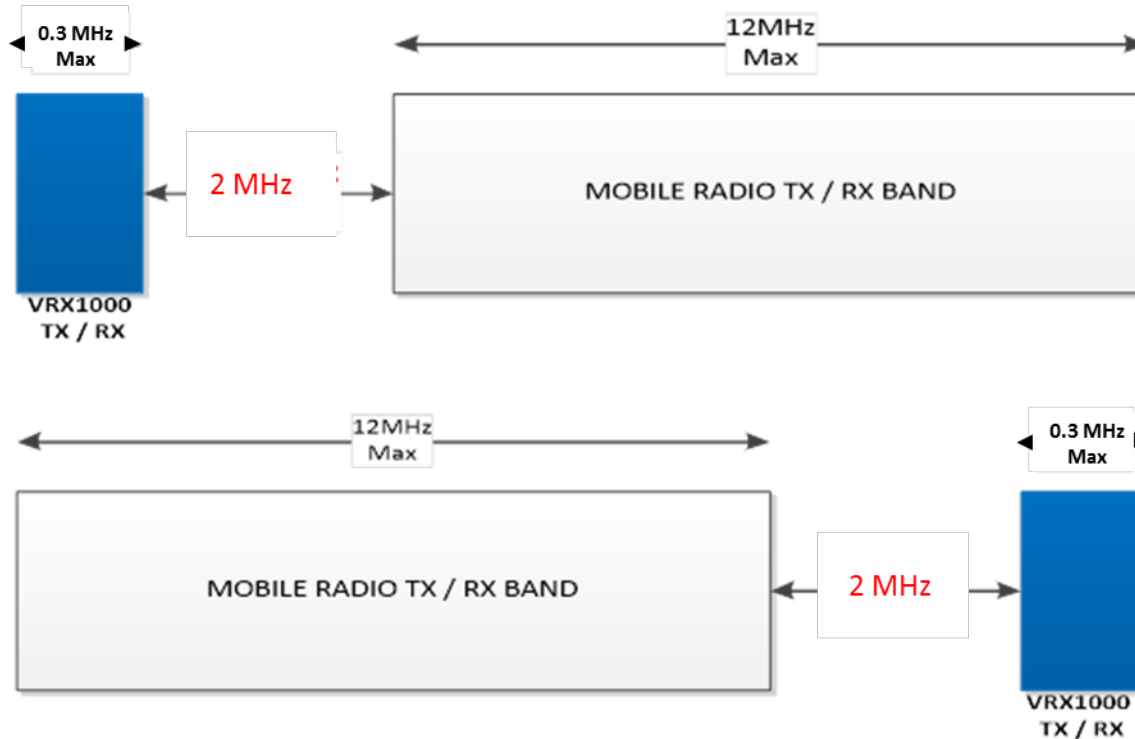
VRX1000 VHF – In-Band Frequency Options

<u>OPTIONS ORDER CODE</u>	<u>ITEM</u>	<u>INCLUDES</u>	<u>PREREQUISITES</u>	<u>NOTES</u>
Frequency Plan A: TT05945AA or Frequency Plan B: TT05946AA	In-Band Filter Kit if Required Refer to Standard Frequency Plans to choose correct order code.	Standard Flat Mount Configuration DDN1967A – 2 x 2 ft RF Cable; mini UHF (m) - mini UHF (m), VRX1000 filter to VRX1000 and APX Mobile filter to APX Mobile	TT2792A – VHF VRX1000 base transceiver	Refer to mounting configurations in Section 8 for alternative mounting options.

VRX1000 UHF – In-Band Frequency Options

<u>OPTIONS ORDER CODES</u>	<u>ITEM</u>	<u>INCLUDES</u>	<u>PREREQUISITES</u>	<u>NOTES</u>
Frequency Plan A: TT05947AA or Frequency Plan B: TT05948AA	In-Band Filter Kit if Required Refer to Standard Frequency Plans to choose correct order code.	Standard Flat Mount Configuration DDN1967A – 2 x 2 ft RF Cable; mini UHF (m) - mini UHF (m), VRX1000 filter to VRX1000 and APX Mobile filter to APX Mobile	TT2793A – UHF VRX1000 base transceiver	Refer to mounting configurations in Section 8 for alternative mounting options.

VHF / UHF In-Band Standard Frequency Plans

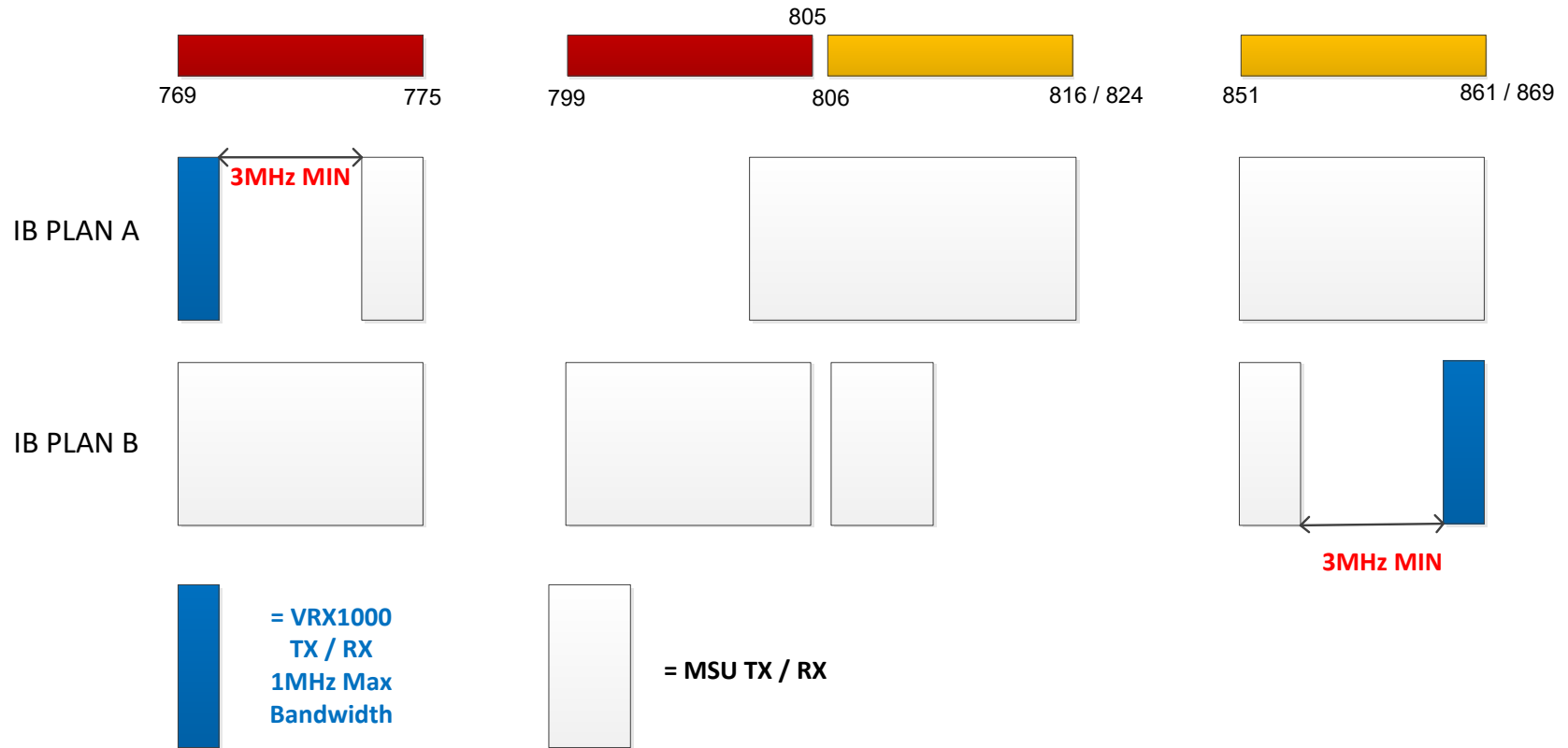


PLAN A - VRX1000 Frequency Below Mobile Frequency Range
PLAN B - VRX1000 Frequency Above Mobile Frequency Range

VRX1000 700/800 MHz In-Band Frequency Options

<u>OPTIONS</u> <u>ORDER CODES</u>	<u>ITEM</u>	<u>INCLUDES</u>	<u>PREREQUISITES</u>	<u>NOTES</u>
Frequency Plan A: TT05949AA or Frequency Plan B: TT05950AA	In-Band Filter Kit if Required Refer to Standard Frequency Plans to choose correct order code.	Standard Flat Mount Configuration DDN1967A – 2 x 2 ft RF Cable; mini UHF (m) - mini UHF (m), VRX1000 filter to VRX1000 and APX Mobile filter to APX Mobile	TT2794A – 700/800 MHz VRX1000 base transceiver	Refer to mounting configurations in Section 8 for alternative mounting options.

700/800 MHz In-Band Standard Frequency Plans



PLAN A - VRX1000 Frequency Below Mobile Frequency Range
PLAN B - VRX1000 Frequency Above Mobile Frequency Range

5. VRX1000 Hardware Options

<u>ORDER CODE</u>	<u>DESCRIPTION</u>	<u>Connector Type / Cable Length</u>
TT05954AA	VRX1000 Programming Kit (physical media) <ul style="list-style-type: none"> - Includes programming and installation manual, programming software and USB cable (DDN1968A) - <i>NOTE: Manuals and software available online for download to registered users</i> 	USB to mini USB Connectors 10 ft
TT05956AA	Delete standard VRX to Mobile Radio Control Cable (DDN1969A) from VRX1000 <ul style="list-style-type: none"> - Used when Y cable is required instead of standard cable - <i>NOTE: Replacement Y cable TT05964AA or TT05977AA MUST be ordered.</i> 	N/A
TT05964AA	VRX1000 Y - Control Cable / AUX (PN 7W087X08-01) <ul style="list-style-type: none"> - Connects the VRX1000 to the MSU and provides access to the VRX1000 AUX pins (DB15) - Replaces the Standard Control Cable DDN1969A 	DB25 to DB25 & DB15 3 ft
TT05977AA	VRX1000 Y - Control Cable / Siren (PN 7W087X09-01) <ul style="list-style-type: none"> - connects the VRX1000 to the MSU and provides connection for Motorola Siren (DB25) - Replaces the Standard Control Cable DDN1969A 	DB25 to DB25 & DB25 3 ft

6. Antennas – Sold Exclusively Through Motorola Solutions, Inc.

<u>ANTENNAS FOR VEHICULAR MOUNT VRX1000 UNITY GAIN (0dBd), ROOF / TRUNK MOUNT</u>	<u>FREQUENCY BAND [MHz]</u>
HAD4006A	136-144 MHz
HAD4007A	144-150.8 MHz
HAD4008A	150.8-162 MHz
HAD4009A	162-174 MHz
HAE6012A	380-433 MHz
HAE4003A	450-470 MHz
HAE4004A	470-512 MHz
HAF4016A	764-870 MHz

7. Mag Mount Antennas

<u>MAG MOUNT ANTENNAS FOR VRX1000</u> <u>UNITY GAIN (0dBd)</u>	
DDN9014A	136-174 MHz
DDN9015A	380-520 MHz
DDN9016A	764-869 MHz

8. VRX1000 Spares / Kits – Ordered Separately from VRX1000

<u>ORDER CODE</u>	<u>DESCRIPTION</u>	<u>NOTES</u>
DDN2073A	VRX1000 VHF In-Band Filter Kit, Plan A, Flat Mount	
DDN2074A	VRX1000 VHF In-Band Filter Kit, Plan B, Flat Mount	
DDN2075A	VRX1000 UHF In-Band Filter Kit, Plan A, Flat Mount	
DDN2076A	VRX1000 UHF In-Band Filter Kit, Plan B, Flat Mount	
DDN2077A	VRX1000 700/800 In-Band Filter Kit, Plan A, Flat Mount	
DDN2078A	VRX1000 700/800 In-Band Filter Kit, Plan B, Flat Mount	
DDN2808A	Relay Kit	
DDN1963A	VRX1000 Mounting Kit <ul style="list-style-type: none"> - Included with all VRX1000 models - Order as spare if required 	

<u>ORDER CODE</u>	<u>DESCRIPTION</u>	<u>NOTES</u>
DDN1965A	VRX1000 In-Band Filter Mounting Bracket Kit – STACKED MOUNT - Order as spare if required	
DDN2751A	VRX1000 Installation Kit – Includes Bracket, Mini UHF Connector, Fuse Kit, Power Cable - Included with all VRX1000 models - Order as spare if required	
<u>ORDER CODE</u>	<u>DESCRIPTION</u>	<u>CONNECTORS / CABLE LENGTH</u>
DDN1966A	VRX1000 DC Power Cable (PN 7W087X20-01) - Included with VRX1000 models - Order as spare if required	M12 Circular connector 18 ft
DDN1967A	RF Cable for In-Band Filter Kit (PN 7W087X11-01) - Connects VRX1000 to VRX1000 In-Band filter OR Mobile Radio to Mobile Radio In-Band filter - Qty 2 included in TT05945AA, TT05946AA, TT05947AA, TT05948AA, TT05949AA, or TT05950AA	Mini UHF (m) to mini UHF (m) 20"
DDN2719A	RF Cable for In-Band Filter Kit (PN 7W900X94-01) - Connects APX™ 8500 Mobile Radio to Mobile Radio In-Band filter	QMA RA (m) to mini UHF (m) 20"

<u>ORDER CODE</u>	<u>DESCRIPTION</u>	<u>NOTES</u>
DDN1968A	VRX1000 Programming Cable	USB to mini USB 10 ft
DDN1969A	VRX1000 to Mobile Radio Control Cable (PN 7W087X07-01) <ul style="list-style-type: none"> - Included with VRX1000 models - Order as spare if required - connects the VRX1000 to the MSU 	DB25 to DB25 3 ft
DDN1970A	VRX1000 Y - Control Cable / AUX (PN 7W087X08-01) <ul style="list-style-type: none"> - Connects the VRX1000 to the MSU and provides access to the VRX1000 AUX pins (DB15) - Replaces the Standard Control Cable DDN1969A 	DB25 to DB25 & DB15 3 ft
DDN2053A	VRX1000 Y - Control Cable / Siren (PN 7W087X09-01) <ul style="list-style-type: none"> - connects the VRX1000 to the MSU and provides connection for Motorola Siren (DB25) - Replaces the Standard Control Cable DDN1969A 	DB25 to DB25 & DB25 3 ft

9. Services

<u>ORDER CODE</u>	<u>DESCRIPTION</u>	<u>Notes and Conditions</u>
DDN2079A	VRX1000 Cross Band 4 Year Extended Warranty	<p>Extends standard 18 month warranty by 4 years. Includes software subscription. Can only be purchased once per unit.</p> <p>Must be purchased prior to expiration of standard warranty.</p>
DDN2080A	VRX1000 Cross Band 1 Year Extended Warranty	<p>Extends existing warranty by one year. Includes software subscription.</p> <p>Must be purchased prior to expiration of any existing warranty. Standard 18 month warranty can be extended by a maximum of 4 years.</p>
DDN2081A	VRX1000 In-Band 4 Year Extended Warranty	<p>Extends standard 18 month warranty by 4 years. Includes software subscription. Can only be purchased once per unit.</p> <p>Must be purchased prior to expiration of standard warranty.</p>
DDN2082A	VRX1000 In-Band 1 Year Extended Warranty	<p>Extends existing warranty by one year. Includes software subscription.</p>

<u>ORDER CODE</u>	<u>DESCRIPTION</u>	<u>Notes and Conditions</u>
		<p>Must be purchased prior to expiration of any existing warranty. Standard 18 month warranty can be extended by a maximum of 4 years.</p>
<p>DDN1971A</p>	<p>Virtual Technical and Programming Support (BASIC)</p>	<p>Maximum 1 day; see EXTENDED support for additional days.</p> <p>Minimum 2 weeks advance notice required however subject to resource availability. Applies to North America only.</p>
<p>DDN1972A</p>	<p>Virtual Technical and Programming Support (EXTENDED)</p>	<p>Must purchase BASIC virtual technical and programming support.</p>
<p>DDN1974A</p>	<p>Virtual Training (BASIC) 2 Courses Available:</p> <p>1. Training the Trainer/end user</p> <p>1 Day (Est 4 hours) end user training gives the end user a general understanding of Futurecom solutions through your agencies particular use case, highlighting best practices through situations commonly seen in the field during deployment situations. Participants will have hands on training with the newly implemented solution for practical operation and control.</p>	<p>Maximum 1 day; see EXTENDED training for additional days.</p> <p>Minimum 2 weeks advance notice required however subject to resource availability. Applies to North America only.</p> <p>Training the trainer requires the newly implemented DVRS/VRX1000/PDR8000® to be tested and in use on the network to get the most out of the Training the Trainer.</p>

<u>ORDER CODE</u>	<u>DESCRIPTION</u>	<u>Notes and Conditions</u>
	<p><u>OR</u></p> <p>2. Technical and Programming Training</p> <p>1 Day Technical and Programming training gives the radio technician an in depth understanding on how the DVRS/VRX1000/PDR8000® is integrated into the everyday operation of the agency. Highlighting code plug compatibility, Futurecom Repeater Configurator (FRC) software functionality and programming for optimal end user experience.</p>	<p>Standard training package. Includes soft copy of training materials. Customized training available subject to content and price negotiation.</p> <p>Contact Futurecom Systems Group, ULC for a pre-training checklist to insure your solution is ready for Basic virtual Training</p> <p>Technical and Programming Training, Futurecom Systems Group, ULC requires at least two full functioning Portable radios (PSUs) programmed to the current system, at least one installed DVRS/VRX1000/PDR8000®. For DVRS and VRX1000 use a Mobile Radio (MSU) radio set is required to conduct this training properly.</p>
<p>DDN1975A</p>	<p>Virtual Training (EXTENDED)</p>	<p>Must purchase BASIC virtual training. All virtual activity must be scheduled as sequential days.</p>

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Revision History

REVISION	DATE	NOTES
R1.0	2014-Nov-07	Initial release
R2.0	2015-Feb-20	Updated Order Codes
R2.1	2015-Apr-13	Reorganized sections for clarity
R2.2	2015-Aug-21	Removed reference that VHF and UHF VRX1000 would be released in Q3 2015. Changed APX Mobile Radios require firmware version R13.00.00 or later. To R14.00.00 or later.
R2.3	2016-Jan-06	Updated description on technical & programming support
R2.4	2017-Jun-07	Removed DDN2054, changed description for P25 Option and P25 Enhanced Trunking Features. Added APX8500 - TT06279AA,
R.2.5	2017-Jun-20	Pg. 5 - Added notes regarding APX8500 In-Band Operation with Single Antenna and requirement for Multiplexers, Pg. 27 Added Diagrams Using APX8500 with Single Antenna and Multiple Antennas
R 2.6	2017-Oct-12	Pg. 9. Revised Descriptions for TT05951AA P25 Operation & TT05952AA P25 AES/DES Encryption. Pg. 4 - Added Link to subscribe to newsletter sign-up
R.2.7	2018-Apr-20	Pg. 14 – Updated the VHF/UHF In-Band Frequency Parameters to allow for 2 MHz Separation between the VRX1000 VHF/UHF Frequency and the VHF/UHF Mobile, Pg 20 Removed TT05978AA Double Y-Control Cable
R.2.8	2018-Nov-12	Pg. 6 - Added new section 1 regarding compatible mobile radios. Pg 6 Added APX8500 kits Removed pictures of mounting configuration in notes section
R 2.9	2018-Dec-19	Pg. 24 – Updated Training Description
R 3.0	2019-Feb-08	Pg. 6 – Added Relay Kit DDN2808, Removed DDN2656
R 3.1	2019-May-27	Pg. 5 – Special Notice regarding Frequency plans that do not meet Futurecom’s specified frequency separation are custom orders
R 3.2	2019-Jun-5	Pg. 6 – Added note regarding the Motorola Cable KT000247A01 requirement for APX8500
R.3.3	2019-Aug-1	Added Registered Trademark to cover page
R.3.4	2019-Oct-30	Delete Order Codes – DDN1960A, DDN1961A, DDN1962A, DDN1973A, DDN2083A, DDN2084A, TT05955AA, TT05957AA, TT05958AA, TT05959AA, TT05960AA, TT05961AA, TT05962AA, TT05963AA, TT05965AA, TT05966AA, TT05967AA, TT05968AA, Added Order code DDN2751A, DDN9014A, DDN9015A, DDN9016A, DDN2719A
R3.5	2020-Feb-02	Added VRX1000 Authentication Factory Installed Order Code – TT06566AA, Added DDN3084 Field Upgrade Option
R.3.6	2020-Mar-18	Pg. 5. Added the order codes for the APX8500 J600 option cable either at time of order or if ordered separately after original order,
R.3.7	2020-Apr-13	Pg. 10 – Added DDN3116A Authentication Field Upgrade Order Code
R.3.8	2020-May-11	Pg 9 – Updated Functional Options Descriptions
R 3.9	2020-May-20	Pg 11 & 14 – Added Rm-OTAP option for either factory or field upgrade option
R 4.0	2020-Aug-27	Removed DDN3084A field upgrade option order code, replaced tweaker with Futurecom Repeater Configurator (FRC), Added PSU Conventional Scan Licensed Feature, all on-site training description changed from on-site to virtual
R 4.1	2020-Oct-10	Updated description for Field Upgrade for PSU Conventional Scan (bulk order)
R4.2	2020-Nov-24	Pg 5 – Added reference for interface kit selection tool APX8500™, Pg 10/14 – Remove Prerequisites for RM-OTAP Feature