



**RADIO PERSONALITY MANAGER (RPM)
TQS3385
SK-104768-001 R12A**

**Compatible with Windows Server[®] 2008 and
Windows[®] 7**

ACKNOWLEDGEMENT

This device is made under license under one or more of the following US patents: 4,590,473; 4,636,791; 5,148,482; 5,185,796; 5,271,017; 5,377,229; 4,716,407; 4,972,460; 5,502,767; 5,146,497; 5,164,986; 5,185,795; 5,226,084; 5,247,579; ; 5,491,772; 5,517,511; 5,630,011; 5,649,050; 5,701,390; 5,715,365; 5,754,974; 5,826,222; 5,870,405; 6,161,089; and 6,199,037 B1. DVSI claims certain rights, including patent rights under aforementioned U.S. patents, and under other U.S. and foreign patents and patents pending. Any use of this software or technology requires a separate written license from DVSI.

CREDITS

HARRIS, assuredcommunications, EDACS, VIDA, and OpenSky are registered trademarks; and JAGUAR, and ProGammer are trademarks of Harris Corporation.

Microsoft, Windows, and Windows Server are registered trademarks of Microsoft Corporation. Bluetooth is a registered trademark of Bluetooth SIG, Inc.

All brand and product names are trademarks, registered trademarks, or service marks of their respective holders.

NOTICE!

The material contained herein is subject to U.S. export approval. No export or re-export is permitted without written approval from the U.S. Government. Rated: EAR99; in accordance with U.S. Dept. of Commerce regulations 15CFR774, Export Administration Regulations.

Repairs to this equipment should be made only by an authorized service technician or facility designated by the supplier. Any repairs, alterations or substitution of recommended parts made by the user to this equipment not approved by the manufacturer could void the user's authority to operate the equipment in addition to the manufacturer's warranty.

The software contained in this device is copyrighted by Harris Corporation. Unpublished rights are reserved under the copyright laws of the United States.

This manual is published by **Harris Corporation**, without any warranty. Improvements and changes to this manual necessitated by typographical errors, inaccuracies of current information, or improvements to programs and/or equipment, may be made by **Harris Corporation**, at any time and without notice. Such changes will be incorporated into new editions of this manual. No part of this manual may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, for any purpose, without the express written permission of **Harris Corporation**.

MANUAL REVISION HISTORY

REV	DATE	REASON FOR REVISION
-	Apr/07	Initial Release for RPM R1.
A	May/07	Added Recovery Procedures and resolved issues for RPM R1.
B	Sep/07	Added support for P5200, P5300, M5300, P5400, and ProVoice AES; added ability to load OpenSky [®] code into dual mode radios; resolved issues for RPM R2.
C	Jun/08	Added changes to support VDOC, CH-721 Control Head, M7300 Mobile, 700 MHz band split, and resolved TRs.
D	Dec/08	Added support for UHF P7300 and the M5300. Added P25 Security Key.
E	Dec/08	Replaced the TX CG control that was missing in version R4A.
F	Jul/09	Harris reformatting; no change in software.
G	Sep/09	Added support for new features and controls and resolved TRs.
H	Oct/09	Resolved a TR.
J	Jun/10	Features and enhancements, new Harris licensing agreement, resolved TRs.
K	Dec/10	Data Options screen redesigned, SNDCP support added for some radios, P25 and ProVoice enabled for M5300, resolved TRs.

REV	DATE	REASON FOR REVISION
L	Mar/11	Added support for Unity XG-100 radios, Dual Control Head support for M5300/7200/7300 radios, resolved TRs.
M	Apr/11	Resolved TRs.
N	Aug/11	New features and enhancements and resolved TRs.
P	Feb/12	New features and resolved TRs.
R	Apr/12	Resolve TRs.
T	Oct/12	Added support for XG-25M radios, added new options, resolved TRs.
U	Nov/12	Corrected typographical errors. No change in software.
V	Apr/13	New features and resolved TRs.
W	Jun/13	Changes to support P25T TDMA Phase 2 and resolved a TR.
Y	Jul/13	Resolved TR.
AA	Jan/14	Support for XGP R2 radios, added new features, removed ProGrammer and VIDA Device Manager from kit, and resolved TRs.
AB	Apr/14	New features and resolved TRs.
AC	Feb/15	New features and resolved TRs.
AD	Apr/15	New features and resolved TRs.

SOFTWARE LICENSE AGREEMENT

This Harris End-User License Agreement ("Agreement") is a legal Agreement between you (either an individual, governmental, or corporate entity hereinafter referred to as "Customer") and Harris Corporation for the Harris software product identified below (the "Licensed Program") and associated media and printed materials, and may include online or electronic documentation. By installing, copying, or otherwise using the Licensed Program, or by agreeing to these terms and conditions in an online dialog box, you agree to be bound by the terms of this Agreement, which shall be effective as of the date of your first installation, copying or use of the Licensed Program or acceptance of the terms in a dialog box. If you do not agree to the terms of this Agreement, you are not authorized to use the Licensed Program and you must return it.

The full text of the End-User License Agreement can be found in MS-018419-001, included in the software package.

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1. SAFETY CONVENTIONS	7
2. INTRODUCTION.....	8
3. INSTALLATION REQUIREMENTS	10
3.1 HARDWARE AND SOFTWARE REQUIREMENTS	10
3.2 COMPATIBILITY.....	10
3.2.1 PC Compatibility	10
3.2.2 Terminal Compatibility	11
3.2.3 Licensing	11
3.2.4 Personality Limitations for Terminals	12
3.2.5 Issue with Windows 8.....	13
4. FEATURES/ENHANCEMENTS	15
4.1 R-STATE R12A	15
4.1.1 XGP R5 Features.....	15
4.1.2 New Feature for XG-75Pe only	16
4.2 R-STATE R11A	16
4.3 R-STATE R10B	17
4.4 R-STATE R10A	18
4.5 R-STATE R9C.....	19
4.6 R-STATE R9B.....	19
4.7 R-STATE R9A	19
4.8 R-STATE R8B	23
4.9 R-STATE R8A	23
4.10 R-STATE R7A	25
4.11 R-STATE R6B	26
4.12 R-STATE R6A	26
4.13 R-STATE R5D	26
4.14 R-STATE R5C	26
4.15 R-STATE R5B	27
4.16 R-STATE R5A	28
4.17 R-STATE R4B	28
4.18 R-STATE R4A	28
4.19 R-STATE R3A	29
4.20 R-STATE R2A	30
4.21 R-STATE R1B	30
4.22 OTHER EXISTING FEATURES	32
5. INSTALLATION PROCEDURE.....	35
6. PROBLEM RESOLUTION.....	36
7. TECHNICAL SUPPORT.....	37

1. SAFETY CONVENTIONS

The following conventions may be used in this manual to alert the user to general safety precautions that must be observed during all phases of operation, service, and repair of this product. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the product. Harris assumes no liability for the customer's failure to comply with these standards.



CAUTION

The **CAUTION** symbol calls attention to an operating procedure, practice, or the like, which, if not performed correctly or adhered to, could result in a risk of danger, damage to the equipment, or severely degrade the equipment performance.



NOTE

The **NOTE** symbol calls attention to supplemental information, which may improve system performance or clarify a process or procedure.

2. INTRODUCTION

This document contains the Software Release Notes for the Radio Personality Manager (RPM) software, SK-104768-001 R-State R12A. TQS3385 is the software kit which contains the RPM software.

Software kit SS-SW1C contains both the RPM software and the Master Dongle (for AAC).

Radio Personality Manager (RPM) is a Microsoft® Windows®-based software application used to program the newer Harris radios operating in Conventional, EDACS®, EDACS IP, P25 Trunking, and P25 Conventional Communication Systems. JAGUAR™ 700P/Pi, JAGUAR 725M, P5100, P5200, P5300, P5400, P7100, M7100, P7200, M5300, P7300, M7200, M7300, XG-15P, XG-75P, XG-75Pe, XG-25P, XG-75 mobile, XG-25M, and Unity® XG-100 mobile and portable radios can be programmed using RPM. RPM creates and modifies radio personalities. A personality is a computer file generated by the user. The computer file (personality) is downloaded from the computer into the radio and contains data that will direct certain operating characteristics of the radio. Personalities can be programmed into the radio or personalities can be read from the radio and saved to the hard drive of the computer.



NOTE

Unity XG-100 radios use Mission Plans which are slightly different from personalities. Refer to the RPM on-line Help for a description of Mission Plans.

Radio Personality Manager (RPM), part number SK-104768-001 R1B or higher is required to program all P7100, P5100, M7100, JAGUAR™ 725M and JAGUAR 700P/Pi with part numbers RU101219V1 and RU101219V2 radios with radio software R12A or higher.

ProGrammer, part number LZY 213 766/11 will not support R12A or higher radio software.

To determine the part number of the JAGUAR 700P/Pi radio:

1. Remove the battery pack.
2. Refer to the small white label located on the back of the radio, inside the battery compartment. If the radio part number is RU101219V1 or RU101219V2, program the radio with Radio Personality Manager (RPM) software (TQS3385), part number SK-104768-001 R1B or higher.

Contact Software Services at 1-800-528-7711 or 1-434-385-2400 to obtain Radio Personality Manager (RPM) software (TQS3385), part number SK-104768-001 R1B or higher.



An On-Line Help System is available for the user after RPM has been installed. The RPM On-Line Help System provides detailed information about operating the software and configuring a personality. Refer to the Getting Started section in the On-Line Help System for basic configuration information and RPM operational parameters. In addition, On-Line Help System provides the following:

- **How Do I** – Step by step instructions that describe how to accomplish the basic operations: creating personalities, systems, sets, etc.
- **Dialog Box Description** – A general description of each dialog box and the type of parameters that are defined in the dialog box.
- **Control Description** – A detailed description of each data entry control. This description includes the default value, ranges, and applicable radio products.
- **Hook-Up Diagrams** – Describes the procedures to put each radio in programming mode and provides hook-up diagrams that illustrate connections between the applicable radio type and the programming computer.

3. INSTALLATION REQUIREMENTS

3.1 HARDWARE AND SOFTWARE REQUIREMENTS

- Personal computer meeting requirements of TQS3385. See Section 3.2.1.
- A license certificate from Harris. See Section 3.2.3 for more information.
- Programming cables connecting the radio to the PC running RPM. Consult your radio's installation manual or RPM on-line help for cable information.
- Profile Manager R8A is required for this version of RPM.



NOTE

Unity Portable radios can also be programmed via a Bluetooth[®] connection provided both the radio and the PC are Bluetooth enabled. See the Unity operator's manual for more information.

3.2 COMPATIBILITY



NOTE

Personalities saved with R09E04 cannot be opened by RPM R10A or RPM R10B. RPM R11A or later will be required to open with these files.

3.2.1 PC Compatibility



NOTE

This version of software was not tested with older versions of code for the products listed. Harris does not guarantee operation with software versions older than those listed or with terminal products preceding those listed.

Windows 7 or Windows Server[®] 2008 with minimum configuration requirements is required to install, configure, and operate the Radio Personality Manager software properly. A desktop, laptop, or server machine that satisfies the requirements to run one of the following operating systems is supported:

- Microsoft Windows 7
- Microsoft Windows Server 2008

RPM, ProGrammer, and VIDA[®] Device Manager can be installed and run on the same PC. Installation on a server is not required.



The RPM software states incorrectly that RPM 12A is compatible with Window XP. RPM 12A has not been tested on Windows XP.

Profile Manager R8A or higher version is required with this version of RPM.



Implementing the EDACS Security Key (ESK) feature requires additional PC software and hardware capability. Refer to manual MM101526V1 for the list of additional ESK requirements.

3.2.2 Terminal Compatibility

RPM supports the following radios:

- P7200, M7200, P5100, P5200, P5300, M5300, P5400, P5500, M7300, P7300, XG-15P, XG-25 portable and mobile, XG-75Pe, and XG-75 portable and mobile.
- For P7100, M7100, P5100, JAGUAR 700P (RU101219), and JAGUAR 725M radios, a minimum of R14 radio code is required.



When upgrading the 7200/5200/7300/5300/7400/5400 radios to R08 software, Burnapp R8.09 is required.

- Unity XG-100 Portable radios and XG-100 Mobile radios with CH-100 and CH-721 control heads.



When reflashing a Unity Mobile with new BurnApp, Unity Mobile BurnApp R13A01 must be used.

3.2.3 Licensing

RPM requires a license for each computer on which it is installed. A new license is required for version R11A (or later) of RPM. See the AAC/RPM Overview Manual, 14221-2100-3000, for more information on types of licenses and installation instructions.

3.2.4 Personality Limitations for Terminals

This section lists the personality limitations imposed by RPM on different types of terminals.

Different platforms of the terminals may have different limitations.

Table 3-1: Personality Limitations for Terminals

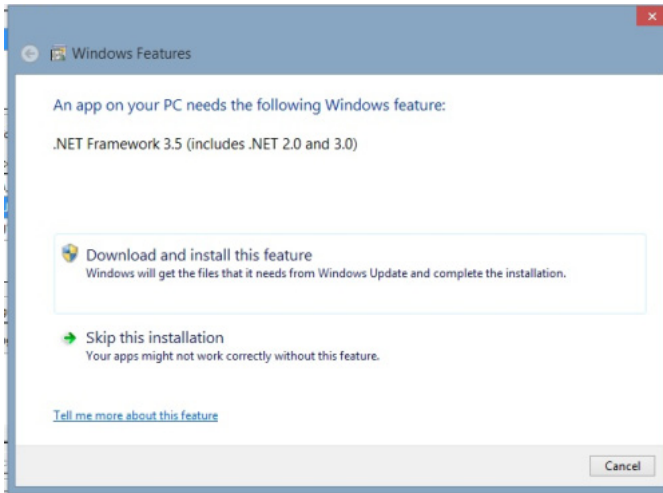
S. No	ITEM	Limits		
		Unity	OMAP	7100
1	Systems	512	512	512
2	System Alpha (alias)	512	512	512
3	System Long Alpha (alias)	512	N.A.	N.A.
4	EDACS Group Sets	N.A.	512	512
5	EDACS EA Group Sets	N.A.	512	512
6	P25 Group Sets	512	512	512
7	Groups per Group Set	1250	1024	1024
8	Total Groups	13824	13824	13824
9	Group Alpha (alias)	1250	1024	1024
10	Group Long Alpha (alias)	1250	N.A.	N.A.
11	Icall Sets	15	15	15
12	Icalls per Icall set	255	255	255
13	Icall Alpha (alias)	1250	1024	1024
14	Icall Long Alpha (alias)	1250	N.A.	N.A.
15	Total Icalls	1344	1344	1344
16	Phone Call Sets	15	15	15
17	Phone Calls per set	255	255	255
18	Phone Calls Alpha (alias)	1250	1024	1024
19	Phone Call Long Alpha Non-Reprogrammable and Reprogrammable (alias)	1250	N.A.	N.A.
20	Total Phone Calls	1344	1344	1344
21	Total Trunked Frequency Sets	512	512	512
22	Freqs per Trunk Freq Sets	255	255	255

S. No	ITEM	Limits		
		Unity	OMAP	7100
23	Total Conv Freq Sets	512	512	512
24	Conv Channels per Conv Freq Set	1000	1000	1000
25	Total Conv Channels per Radio	1250	1024	1024
26	Total P25 Conv Freq Sets	512	512	512
27	P25 Conv Channels per p25 Conv Freq Set	1000	1000	1000
28	Total P25 Conv Channels per Radio	1250	1024	1024
29	Conv Alpha (Both P25 Conv and Conv)	1250	1024	1024
30	Conv Long Alpha (alias)	1250	N.A.	N.A.
31	Total Unique Freq pairs (Conv, P25 Conv, and trunk)	1250	1024	1024
32	Max Scan Tables (used for the minimized scan option)	255	255	255

3.2.5 Issue with Windows 8

RPM R12A supports Windows 8 operating system except in the following scenario. While extracting Unity personalities, RPM asks for .Net 3.5 Framework installation. A Windows message appears to install the .Net 3.5 Framework.

The user needs to download and install .Net Framework 3.5 and then the framework will install on the user's machine. In the background, it enables the .Net 3.5 Framework in the Windows operating system which already has the .Net 3.5 Framework as an integral part of the Windows 8.



4. FEATURES/ENHANCEMENTS

4.1 R-STATE R12A



NOTE

A new License is required to use RPM R11A and later software. Advanced Access Control (AAC) is included in this version. This feature supports limiting access to P25 Wide Area Networks and various other access policies. See AAC documentation for more information.

Support was added for the following radios in this release:

- XG-75Pe
- XG-75M
- XG-15P

4.1.1 XGP R5 Features

Support has been added for XGP R5 features. These features are supported on the following radios:

M7300, M5300 800 MHz, P5300 900 MHz only, P5500 UHF LL (335-380 MHz), XG-15P, XG-25 P/M, XG-75-P, XG-75Pe, Unity XG-100P, Unity XG-100M w/CH-100, Unity XG-100M w/CH-721

- Caller ID
- Zones
- Transmit Clear Emergency on encrypted system
- Mixed Zone Scan
 - Create a Custom Scan list
 - Associate a Custom Scan list to a System (Conventional, P25 Conventional, and Trunked)
- Programmable CC Scan Delay Timer
- Added support for logging radio events in the event log. RPM will log the messages in Windows application event log for all radio interfacing actions such as read personality, write personality, read audio files, write audio files, code loading, read/write Unity mission plans, and activate mission plan.
- Noise Cancellation types added in General Options screen

4.1.2 New Feature for XG-75Pe only

Channel Bank support for A\B\C Switch

4.2 R-STATE R11A

Advanced Access Control (AAC) is added to this version. This feature supports limiting access to P25 Wide Area Networks and various other access policies. See the AAC/RPM Overview Manual, 14221-2100-3000, for detailed information about AAC.

Support has been added for XGP R4 features, including the following:



NOTE

New features will not be supported for M/P7200 radios

- Low Band PA support for Unity Mobile. This includes limiting the TX frequency range for Low Band to 33.0 – 48.0 MHz. For RX the range is 30.0 – 50.0 MHz.



NOTE

When the XG-100LPA external VHF low-band power amplifier is attached, the Unity XG-100M is enabled to transmit between 33 and 48 MHz. While previous software versions permitted the radio to be set between 30 and 50 MHz for receive only, the additional transmit capability forces a constraint of the frequency range of VHF low band.

- Enable Radio Text Link settings and options screens for Unity Mobile Radio systems (CH-721 and CH-100).
- Added "Indicator LED" combo box in Display Settings for Unity Portable.
- Added "Top Display Color" combo box in Display Settings for Unity Portable.
- Support for XG-25M UHF (378 – 470) is added.
- A new Accessory Device Options dialog is added (to support Fire Speaker Mic). This dialog is available for all Unity and OMAP radios (except 7200 radios).
- PTT Ready to Talk Tone on the Alert Options dialog is enabled for Unity Portable radios.

- Radio TextLink Host parameters is enabled on EDACS and EDACS IP Systems for Unity Mobile/CH-721 radios.
- On the Power Up Options dialog, “Power up Zones” is enabled for Unity XG-100M (CH-100).
- Voice Annunciation support is added. This feature includes multiple changes/additions. The main menu now includes “Voice Annunciation.” Sub-menus include, “Voice Annunciation Configuration” and “Voice Annunciation Management.” The configuration menu allows the user to select the voice files and create/save voice annunciation configuration (.vac) files. The .vac files need to be associated with the personalities that will use the voice files contained in the .vac files. The Voice Annunciation Management Menu allows for writing/reading voice files to terminals. Note that this is a separate operation from writing personalities.

Additionally, there is a new “Voice Annunciation Settings” dialog in the Options Tree in RPM. There are multiple dialogs that have been modified to add the Voice Annunciation files selection, such as Zones, Systems (General tab), Conventional and P25 Conventional Sets, Group sets, and portable and mobile keypads. See the Voice Annunciation Features manual, 14221-7200-6110, for more information.

- Talk Around indication has been enabled for all OMAP radios (except 7200/5200).
- A new checkbox, “Refresh ProScan Adjacency List.” is added to P25T Systems. This control is available for all OMAP and Unity radios (except 7200/5200).
- An “Adaptive Filter” checkbox is added to the P25T Systems. This option indicates if Adaptive Filter needs to be used on a P25T System. It is available for the user to select only if “Linear Simulcast” or “TDMA Capable” checkboxes are enabled. This control is available for all OMAP and Unity radios (except 7200/5200).
- XG-75M is added to the radio types.
- Electronic License Finger Print feature is added. Upon reading a radio, this information can be viewed on the Synopsis tab (Fingerprint License and Fingerprint date/time).

4.3 R-STATE R10B

Support has been added for XGP R3 features, including the following:

- Channel Entry for Unity XG-100P – “Select Channel/Group Number” has been added to the shortcut menu options.
- DTMF – support has been added for XG-100P.

- A/B/C Switch for Unity XG-100P – “Three Position Switch” options have been added under Programmable Knobs settings.
- Talk Around Indication has been added to Conventional and P25 Conventional Systems. The selections are Disabled, Transmit Only, or Transmit & Receive. These controls apply to Unity XG-100P and Unity XG-100M.

4.4 R-STATE R10A

- Support has been added for XGP R2 features, including the following:
 - P25 Conventional Features (OMAP and Unity Mobile)
 - Data:
 - ❖ Data (SCEP)
 - ❖ Profile (OTAP)
 - ❖ Over The Air Re-Keying OTAR
 - ❖ GPS
 - ❖ Radio TextLink
 - Voice Registration /De-registration and Group Affiliation
 - Emergency Alarm
 - Vote Scan on a conventional system
 - P25C Vehicular Repeater w/M7300
 - Bluetooth feature on XG-25 P and M (audio only)
 - EDACS/ProVoice Support on XG-25P & M
 - EDACS ProVoice/AES feature on non-Unity platforms
 - M7300 Test Unit
 - Accessory Support: Man Down Switch
 - Type 99 quick call / Unity
 - Assignable control of ext mic PTT / Unity
 - Vehicular Repeater with Unity Mobile
 - Control & Status Services on Unity Mobile
- Support for XG-25P UHF L (378 – 470)
- Support for XG-25M 7/800 MHz
- Support for XG-75P UHF H (450 – 512)
- Code loading support for CH-25

4.5 R-STATE R9C

This version makes some additional changes to support P25T TDMA Phase 2.

4.6 R-STATE R9B

- EDACS support has been added for Unity XG-100 Mobile/CH 721.
- Support for Link Layer Authentication has been added for Unity XG-100 Mobile and Portable radios as well as P7200, M7200, P5200, P5300, P5400, P7300, M5300, P5400, P7300, M5300, M7200, M7300, XG-25M, XG-25P, and XG-75P radios.
- Enhanced ID has been enabled for Unity XG-100 Mobile and Portable radios.
- Multiple Mixed System/Zones has been added for Unity Mobile (CH-100 and CH-721).
- Additionally, Power up Options includes a new selection for Power Up
- Zone and new key codes have been added for Zones.
- AES/DES support has been enabled for XG 25 Portable and Mobile radios.
- “Alternate Alert Tone” checkbox has been added to the Enhanced ID Options Dialog. This option is supported by the following radios - Unity XG-100
- “One Button Emergency Clear” checkbox has been added to Supervisory Options. This option will be available to select when “Clear Emergency” is selected. This option is supported by the following radios: Unity XG-100 Mobile and Portable radios as well as P7200, M7200, P5200, P5300, P5400, P7300, M5300, P5400, P7300, M5300, M7200, M7300, XG-25M, XG-25P, and XG-75P.

4.7 R-STATE R9A

- Support added for XG-25M radios, P5500 UHF 330-380 MHz and 378-470 MHz radios, and M7300 UHF 330-380 MHz radios.
- The following options have been added for **P7200/5200/5300/5400/5500, M7200/7300/5300, XG-25P/75P, and XG-25M** radios:
 - **Stealth Options** – A Stealth Mode Options dialog box has been added.
 - On the P25 Conv Frequency Sets dialog, the **TX and RX NAC**, and **RX Default NAC** have been made available.
 - **Multigroup options** have been added. This includes new controls added to the P25 Group Set dialog for the Multigroup selection, the **Announcement Group ID**, and a checkbox for selecting “**Subgroup**”

of **MG**” for each group. In addition, a checkbox has been added to the P25 Trunked System dialog to select “**Keyback on MG.**”

- **Control & Status Services** – A CSS checkbox and **UPD Service Port** have been added on the “Data Applications” tab of Data Options.
- A checkbox called “**Emer User Only Clr**” was added to the P25T system dialog.
- “**PTT Polarity**” was added to Conv Freq sets. This control is available for **Mobile** radios when the “Data” checkbox is selected.
- The selection in the Options tree for MDC Options has been renamed “**Signaling Options**” and a new tab has been added for “**Enhanced ID**” options. Additionally, “**Enhanced ID**” was added to P25 Conv Freq Sets, via the “Signaling” button.
- The following features/options have been added for the **Unity XG-100 Portable** radio:



NOTE

All features added for Unity Portable radios require R4 radio software.

- **Custom Scan Options** have been added.
- **Multiple Mixed System/Zone** dialog has been added for Unity Portable. This can be selected from the main tree menu by selecting “**Zones.**”
- Some new controls have been added to the Display Settings Dialog. These include **Front Backlight Timeout, Top Backlight, and Top Backlight Timeout.**
- New selections have been added to the Programmable Buttons. These include **Front Backlight Toggle, Top Backlight Toggle, and Flashlight Mode.**
- New selections have been added to **Programmable Buttons** – **Talkaround, Keypad Lock, Scan, and Monitor/Clear** selections have been added. Additionally, a button **Delay** has been added for the Top, Middle, and Side Buttons. Additionally, some new selections have been added to Programmable Buttons, including **Front Backlight Toggle, Top Backlight Toggle, and Flashlight Mode.**
- A new Tab was added to the **Programmable Buttons/Knobs** dialog for Programmable Shortcut Menu.

- On the Audio Settings dialog, a new checkbox was added for **Keypad Tones**.
- Data Options - The “**Profile UDP port**” has been enabled.
- “**Linear Simulcast**” on the P25T System dialog has been made accessible.
- The following options have been added for the **Unity XG-100 Mobile (CH-100 and CH-721)** radios:



NOTE

All features added for Unity Mobile radios require R3 radio software.

- Settings for Data Options have been made accessible.
- On the P25 Trunked System dialog, **Conv Priority System** has been made available.
- **Conv Pri Scan Hang Time** on Scan Options has been made available.
- **DTMF Options** have been made available. Additionally, the **DTMF** checkbox on Conventional Systems and P25 Conventional Systems has been made available.
- **Alternate PTT Channel** has been made available on the Conv Frequency Sets.
- **Minimum Volume ON** General Options have been made available.
- **Status/Message Options** have been made available.
- **Send Emer Alarm** checkbox on P25 Conventional Systems has been made available.
- **FNE LID** on the P25 Conventional System dialog has been made available.
- On the Data Options dialog, on the Profile Settings Tab, the **UDP Port** in the Profile Settings has been enabled.
- **Data** checkbox on P25 Conventional Frequency Sets has been made available.
- **Emer Display** checkbox on P25 Conventional Systems has been made available.
- **Emer Disp** and **Emer Audio** checkboxes on P25 Trunked System have been made available.
- **Phone Keypad** on Keypad Options has been made available. (CH-721 only)

- **CG Sel** on P25 Conv Systems has been added.
- **Emer User Only Clr** checkbox was added to P25T systems.
- **External I/O Options** have been added for Unity Mobile CH- 100.
- The following options have been added for the **Unity XG-100 Mobile CH 721** radio:



NOTE

All features added for Unity Mobile radios require R3 radio software.

- **Multigroup options** have been made available.
- On the Display Settings dialog, the **Alternate SYS/GRP Font Size** checkbox has been enabled.
- The **HHC- 731 Hand Held Controller** tab on the Control Unit Keypad Options has been enabled.
- The following options have been added for both the **Unity XG-100 Portable** and **Unity XG-100 Mobile (CH-100 and CH-721)** radios:



NOTE

All features added for Unity Portable radios require R4 radio software.

All features added for Unity Mobile radios require R3 radio software.

- **MDC Options** – all controls have been made available. These options are available as part of “Signaling Options” selection from the tree view.
- **MDC ID** on Conventional and P25 Conventional Systems has been made available.
- **Phone Call Sets** and **Programmable Phone Calls** have been made available. Additionally, **Phone Call Set** from P25 Trunked System dialog has been made available.
- **Phone Entry Mode** on Timer Options has been made available.
- On the Keypad Options dialog, **Phone Keypad** has been made available (for CH-721 only)
- On the General Options dialog, “**Allow P25T Unsolicited Dynamic Regroup**” checkbox has been enabled.

- The following options have been added for **P7200/5200/5300/5400/5500, M7200/7300/5300, XG-25P/75P, and XG-25M** radios and the **Unity XG-100 Portable**:



NOTE

All features added for Unity Portable radios require R4 radio software.

- **Pin Entry Options** have been added to the PowerUp Options dialog.
- **Confirmed Tx** has been added to the P25C and P25T system.
- A checkbox called **“Emer User Only Clr”** was added to the P25T system dialog.
- P25 Conv ERTT – an **“Emer Behavior”** control has been added to P25C Systems. Selections are Emer Alarm Only, Emer Call Only, or Emer Alarm + Emer Call.

4.8 R-STATE R8B

There are no new features in this release.

4.9 R-STATE R8A

- Support for XG-25 radios and Unity Mobile radios with CH-100 has been added.
- New features that were added for Unity Portable radio software (R3A) have been added or made available for editing, including:
 - Situational Awareness - This includes a checkbox on the P25 Conv Channel, “SA,” as well as a new control on the Timer Options dialog, “SA Transmit Interval.”
 - Mixed System/Zone Options have been added.
 - Two new controls have been added to P25 Conv Systems. These controls are “FNE LID” and “Mfg ID” (Standard or Legacy).
 - A two position knob setting has been added for Unity XG-100P radios, selections include TX disable on/off and Encryption On/Off.
 - The ability to map a status/message to a Programmable Button has been added.

- Long Names were added to Phone Set and Programmable Phone Calls.
- Send Emer Alarm has been added to P25 Conv Systems.
- In P25 Conv Systems, support was added for CG Select.
- In Conv Systems, support was added for CG Select.
- In P25 Trunked Systems, support was added for Radio TextLink, Conv. Priority System, and Phone Call Set.
- In P25 Conv. Frequency Set, Rx Default NAC was added.
- Minimum Volume was added in Audio Settings for Unity Portable radios.
- In Data Options, Radio TextLink support was added.
- In Power Up Options, **Audible Tone** support was added.
- The USB Driver for Unity radios has been updated to support 64 bit Windows 7 operating systems.
- MDC-1200 Options have been added for the following radios – P7200/5200/5300/5400/5500, M7200/7300, XG-25, XG-75, and Unity XG-100P.
- G-STAR Options have been added to P25Conv channels (when set to analog), for the following radios – P7200/5200/5300/5400/5500, M7200/7300, XG-25, and XG-75.
- P25 Priority Talk Group has been added to the P25 Group Set for the following radios - P7200/5200/5400/5500, M7200/7300, XG-25, and XG-75.
- On the General Options dialog, a checkbox has been added for “Noise Suppression.” This control is available for P7200/5200/5300/5400/5500, XG-75, and M7200/7300/5300.
- On P25 Conv Systems, several checkboxes have been added for Unity XG-100P, Emergency Display, Emergency Audio, and Send Emergency Alarm.
- On the P25 Group Set dialog, a checkbox has been added for “Use Group ID 0.” When this checkbox is enabled, the Group ID control will be

disabled. This is available for Unity XG-100P, P7200, P7300, P5200, P5400, M5300, M7200, and M7300 radios.

- The range for the P25 Unit ID has been expanded for all radios, to 16,777,211.
- The Status/Message Dialog has been redesigned in this release.
- In radio maintenance, the ability to edit Calibration Data has been added for the following radios - P7200/5200/5300/5400/5500, XG-25/75, and M7200/7300/5300.



NOTE

Radio code R15A or later is required to support reading and writing Calibration Data.

- PPP/Slip Options have been turned on for most radios.
- Noise Suppression has been added for P5200, P5300, P5400, P5500, P7200, P7300, M5300, M7200, M7300, and XG-75.
- Key Selections for PRESET 1 – 3 have been added for M7200, M7300, and M5300 radios.
- Some options on Conv Sets and P25 Conv Sets have been moved to a separate dialog, accessed through the “Signaling” Button. These include Tone Encode, G-Star, MDC, T99 Decode, and DES-CFB options.
- P25 Vehicular Repeater now supports 800 MHz frequencies.
- Wideband Filter control was added to the P25T System dialog and is available for M7100 radios.

4.10 R-STATE R7A

- Support for XG-75 radios with a Noise Cancellation option.
- Support for P5500 radios.
- Support for Unity XG-100 mobile radios. This radio has two different control head options. The Unity XG-100 with the CH-721 control head is supported in this release of software. Support for the CH-100 control head is scheduled for a future release.

- Allow programming of all of the types of code available to the 7200/7300/5300/5400 radios.
- Added a checkbox to allow the Handheld Controller to unlock the keypad and zeroize encryption keys (for M7200 only).

4.11 R-STATE R6B

There are no new features in this release.

4.12 R-STATE R6A

- Unity XG-100 Portable and Unity XG-100 Mobile radios have been added. These two radios support multiple bands. Unity radios support Conventional, P25 Conventional, and P25 Trunked Systems. The new dialogs added for the Unity XG-100 Portable include: Audio Settings, Display Settings, GPS Settings, Bluetooth Settings, Clock Settings, Battery Settings, Unity XG-100 Portable Programmable Buttons, and Unity XG100 Portable Options. New controls for Long Names were added to many of the dialogs where alpha names are entered. Vote scan settings were added to the Conventional and P25 Conv Frequency sets. DES-CFB was added to P25 Conventional sets.
- Dual Control Head support for M7200/M7300/M5300 radios has been added.
- The number of preferred systems available for a P25T system has been expanded from 8 to 32.
- The options available for the A/B Switch on P7300/P5300/P5400 radios are updated to reflect the options that are applicable.
- The top level “Radio” menu has changed slightly to add the USB connection for Unity portable radios. A new button on the toolbar will also access the Unity Radio Management dialog.

4.13 R-STATE R5D

- The Data Options Dialog is redesigned. The new dialog contains three tabs labeled Data Applications, Data Transport, and Data Interfaces. SNDCP support is added to the Data Transport tab and is available for P7200, P7300, P5400, M7200, M7300, and M5300 radios.
- P25 and ProVoice are enabled for M5300 radios.

4.14 R-STATE R5C

- Support for the following radios has been added to this release -P7300 VHF, P7300 Dual Band, M7300 UHF Low, and UHF High.
- The license server has been updated to the Harris license server.

- A new dialog box has been added to support P25 Vehicular Repeater Options (available for M7300 only). The existing Vehicular Repeater options were renamed Analog Vehicular Repeater. A VR activation checkbox has been added to P25T Systems (available for P5200, P5400, P7200, P7300, M7200 and M7300 radios). A selection for “P25 VR” has also been added to the programmable trunked menu options and the control unity keypad selections.
- Selections for Emergency Alarms were added to the External I/O Options dialog. While implementing these options, this screen was redesigned to better reflect the actual operation of the radio.
- Two new controls have been added to the Tracking Data dialog box to address coarse and fine Channel Selectivity Optimization. These controls are available for some M7100 radios.
- Support for 700 MHz 25 KHz Channel Center Frequencies has been added.
- Code loading to the CH-721 and HHC-731 Hand Held Controller has been added.
- Conventional Priority System (ECP1 scan) was added to P25 Conv Systems.
- The ability to extract data to csv files from the command line was added (currently available under the Tools menu).
- A new dialog for defining HHC-731 Hand Held Controller keys has been added.
- An option to allow an alternate System/Group Font was added to the Display Settings Dialog. This option allows the 2nd line of the display to be the same size as the first (for M5300/7300 radios only).
- GPS MIC Power Save option was added to the Portable Radio Options dialog.
- A new selection was added to the Site Preference Level for P25 Trunked Systems. Additionally, the wording of the selections has changed slightly. Previous versions had a selection called “Always Desired” which is now called “Preferred.” The selection is called “Always Preferred.”

4.15 R-STATE R5B

The R5B version contains the following change:

Fixes a problem with the “Override Default NPSPAC Channel Assignment” in General Options.

4.16 R-STATE R5A

The R5A version contains the following changes/additions:

- Harris rebranding.
- The P25 Trunked System Dialog has been reorganized.
- The HHC-731 has been added.
- Hand Held Controller has been added.
- M7300 VHF has been added.
- Radio TextLink MID List import has been changed to a new format.
- Four new controls for Digital Audio Scaling have been added, accessed by a button on the General Options Dialog for M/P7200, M/P7300, P5200, P5300, and P5400 radios.
- For ISSI support, a new control for System ID has been added to the P25 Group Set for M/P7200, M/P7300, P5200, P5300, and P5400 radios.
- DCS+ has been turned on for all band splits supported (800, UHF, and VHF).
- An “External TX Indicator” control has been added in the External I/O dialog for M5300/M7300.
- The ProScan Options dialog has been changed to allow entries in the following controls to be entered in dBM:
 - Priority System Minimum Level
 - System Transition Level
 - Non Priority System Minimum Level
 - Non Priority System Transition Level
- Switch Delta has been changed to be entered in dB.

4.17 R-STATE R4B

The R4B version replaces the TX CG control that was missing in R4A on the P25 Conventional Channel.

4.18 R-STATE R4A

The following features were added with the R4A release of RPM:

- Added support for UHF P7300 radios.
- Added support for 800 MHz M5300 radios.

- When writing JAGUAR/7100 radio code versions 16 or later to the portable radio for the first time, it is necessary to put the radio into Programming Mode via the three side buttons (press and hold the PTT, Clear/Monitor, and Option buttons simultaneously, then power on the radio). Once this is done, it will reduce the time it takes to write code to the radio.
- Added ability to load Encryption Modules to M7200, P7200, M7300, P7300, and P5400 radios.
- Updated the version of the .NET Framework to 3.5 SP 1.

4.19 R-STATE R3A

The following features were added with the R3A release of RPM:

- The 700 MHz Band Split has been changed to allow both the old and new ranges.
- Added changes to support VDOC – there is a new check box on P25 Systems (for P7100 radios).
- Added support for CH-721 Control Head.
- Added support for A/B Switch for P5300 and P5400 portables.
- Added support for the M7300 Mobile (700/800 MHz only).
- Added two check boxes to the P25 Trunked System dialog: Send Emergency Alarm and Avoid Failsoft.
- Removed the Default Channel Data button on P25T Systems. In place of this button, there is now a selection for a Default Channel IDEN Set. Each set can contain up to 16 Default Channels. It is possible for each IDEN set to be attached to multiple systems.



NOTE

This has been implemented in R17 7100 Series Radio code. Only the first channel will be used by radio code that does not support this feature yet.

- Updated the Bootloader for 7100 series radios.
- A check was added to ensure the correct programming mode (3-button) is used (to ensure loading the correct bootloader), when upgrading to R16 code from earlier versions.
- Removed Ext Speaker Dialog box for 7200/5200/5300/5400 series radios.
- Configuration file was moved to C:\Documents and Settings\All Users\Application Data\MA-COM\RadPersMgr.
- Added Mode to the Menu for the OMAP radios. This allows switching to OTP and Burn App.

- Installation will now add a desktop shortcut.
- Added SG6 – SG16 to the menu for mobile radios.

4.20 R-STATE R2A

The following features were added with the R2A release of RPM:

- The radio products P5200, P5300, M5300, and P5400 have been added to this release.
- ProVoice AES has been added to this release. While adding this feature, the options for Private Voice on some of the Systems Dialog boxes have been redesigned and rearranged. The wording on some of these options may have been changed from the previous version. A new control for AES Key Numbers has been added to the EDACS Group Set dialog.
- Volume levels for M/P7200 radios have been changed from 0 – 31 to 0 – 40.
- EEPROM size has changed from 2K to 4K for all P7200, P5200, P5300, P5400, M5300, and M7200 radios.
- Help files have been updated to HTML format.
- The ability to load OpenSky code to dual mode radios has been added.
- Changed default for AGC Level on General Options to 0.
- Changed LCD to default to Channel on P25 Conventional System.

4.21 R-STATE R1B

RPM is largely the same as the old ProGrammer software. RPM supports only the newer radio products. Most of the dialog boxes have the same name as they do in ProGrammer. Controls that are not used in radios that RPM supports have been removed and some dialog boxes have been rearranged.

JAGUAR, 5100, and 7100 Series radios require a minimum of R14 radio code. If an earlier version of code is in the radio, the user must “upgrade” the radio to be compatible with RPM. “Upgrading” the radio consists of selecting a new Radio Code/DSP file before programming the radio. RPM will automatically make all of the changes necessary. When performing the “Upgrade,” it is important to put the portable radio into programming mode by pressing the 3 side buttons at the same time on the radio. If the radio is not in the correct programming mode, RPM will indicate an error and will not continue.



Prior to upgrading to R14 radio code/RPM, feature and tracking data files should be saved (for recovery).



RPM cannot be used to read a radio that was programmed with ProGrammer. The user can read the radio with ProGrammer and save the file. The file can then be read in RPM.

RPM and all versions of Radio Code supported by it are capable of supporting very large personalities. Refer to Table 3-1 for a list of personality limitations for terminals.

One of the differences between ProGrammer and RPM is on the main personality dialog. Programmer had 4 tabs: Options, Sets, Systems, and Synopsis. In RPM, these are 2 tabs: Personality Data Tree and Synopsis. Options, Sets, and Systems are contained in a tree structure under the Personality Data Tree tab.

Default directories for RPM will now be under C:\Documents and Settings\All Users\Documents\RadPersMgr\...

RPM uses a file extension to differentiate the personality files from ProGrammer personality files. ProGrammer personality files can be read and converted to RPM personality files. When opening a file, change the file type to Programmer Personality. Once the file is saved, it will be in the new file format/extension (prs).

Global Set extensions have also changed. Once your personalities have been converted to RPM Personalities, if they contain global sets, the files will not be found unless they are converted to the new file extensions. Harris provides a menu option to facilitate the conversion. This option is under Tools/Sets Converter. Be aware that your global sets must be in the global sets directory listed in RPM and the new sets will also be put in the sets directory.

A new option has been added in the Tools menu: Tool/Data Extractor. This option gives you the ability to extract the data into comma separated files, compatible with Microsoft Excel. It will also display a small summary of the data on the screen when you extract the data. The extraction can be done on personalities (both old and new), and all global sets. Multiple sets can be selected.

There are some differences in the way radio code is loaded with the current products and the 7200 radio products. Loading radio code to the 7200 products is a separate operation from writing the personality to the radio. A new menu option has been added to support writing code to the 7200 radio

products. From the main menu, select “Radio,” then select “Load Compressed Code.”

JAGUAR and 7100 radios containing radio code prior to R14 will need to be upgraded. This is done automatically when writing R14 or later radio code. RPM will save the old version of tracking and feature data when an upgrade is done. These files are stored in the backup directory. The files will be named as <esn>-upgrd.trk and <esn>-upgrd.enc. The new converted files are automatically stored in the backup directory if you have “Enable File Backup” selected in the “Options and Directory Settings” dialog.

A new option, “Program,” has been added to keypads and programmable menus for 7200 radios.

Under “Options and Directory Settings,” a new control was added to enable the user to track directories during the session. If this option is enabled, the last directory that the user browsed will be used as long as the application is running.

The default for CCT on Conventional and P25 Conventional channels has been changed to enabled.

4.22 OTHER EXISTING FEATURES

The following features are existing features:

- P25 Conventional Unit Enable/Disable Messaging – New controls for this feature have been added to the P25 Conventional System dialog box. Three new key selections (Rad Chk, Rad Dis, and Rad En) have been added to the Keypad Options for Mobile and Portable radios. These selections have also been added to Programmable menus.
- GPS Settings (available on the Data Options dialog) have been enabled for the 5100 Series, 7100 Series, and 7200 Series radios. A Sample Interval has been added to the GPS settings. GPS has also been added as a Keypad selection as well as a Programmable Menu selection.
- P25 Trunked Band Scan – “Enhanced CC” has been added to the ProScan Option on the P25 Trunked System Dialog. When “Enhanced CC” is selected, two buttons on the dialog box become active and the System Scan list becomes inactive. These buttons are called “Band Hunt Data” and “Preferred Sys Table.” Selecting either of these buttons activates a dialog box that allows these features to be defined. The “Band Hunt Data” dialog allows selection of the Band Hunt Start and End Frequencies as well as the Band Hunt Spacing. The “Preferred Sys Table” dialog allows the user to assign priority levels for up to eight combinations of P25 Trunked System ID, RFSS ID, and Site ID. Additionally, a Band Hunt Interval control has been added to the Scan Options Dialog. This control determines the period of time the radio will go into Band Scan.

- P25 Trunked Priority 1 Scan Follows Selected Group – On the P25 Group Set Dialog, “Selected” will appear as one of the selections for Priority 1 Group.
- EDACS IP Periodic Registration Timer – A “Reg Timer” control has been added to the EDACS IP System dialog. This control determines the time in minutes that the radio will resend a registration to the system.
- The main personality dialog view has Options, Sets, and Systems contained in a tree control instead of tabs as in ProGrammer.
- Default directories for RPM will now be under C:\Documents and Settings\All Users\Documents\RadPersMgr\...
- RPM uses a file extension to differentiate the personality files from ProGrammer personality files. ProGrammer personality files can be read and converted to RPM personality files. The old .per file must be opened in RPM. RPM will perform all of the necessary conversions and this file should be saved in the new format. Once the file is saved, it will be in the new file format/extension (prs).
- Global Set extensions have also changed. Once your personalities have been converted to RPM Personalities, if they contain global sets, the files will not be found unless they are converted to the new file extensions. Harris provides a menu option to facilitate the conversion. This option is under Tools/Sets Converter. Be aware that your global sets must be in the global sets directory listed in RPM and the new sets will also be put in the sets directory.
- An option has been added in the Tools menu: Tools/Data Extractor. This option gives you the ability to extract the data (personality data or set data) into comma separated files, compatible with Microsoft Excel. It will also display a small summary of the data on the screen when you extract the data. The extraction can be done on personalities (both old and new), and all global sets. Multiple sets can be selected.
- There are some differences in the way radio code is loaded with the 7100 products and the 7200 radio products. Loading radio code to the 7200 products is a separate operation from writing the personality to the radio. A new menu option has been added to support writing code to the 7200 radio products. From the main menu, select “Radio,” then select “Load Compressed Code.” For information on putting the radio into Program Mode, see RPM on-line Help.
- An option, “Program,” has been added to keypads and programmable menus for 5300, 5400, and 7200 radios.
- Under “Options and Directory Settings,” a control was added to enable the user to track directories during the session.

- The default for CCT on Conventional and P25 Conventional channels has been changed to Enabled.
- SC4 files have been replaced by SC5 files in all RPM products.

5. INSTALLATION PROCEDURE

To install and run RPM, SK-104768-001 R12A, on a PC installed with Windows Server 2008 or Windows 7, follow the steps below.

1. Insert the **RPM** installation CD into the CD-ROM drive.
2. The RPM Installation selector will automatically run.
3. If the RPM installation selector does not automatically run, select the **Start** button and select **Run**. Browse to the **setup.exe** file on CD-ROM and select **OK**.



NOTE

The RPM.msi file is also shipped on this CD-ROM. **Do not** use this file to install RPM.

4. Follow the on-screen instructions to complete the installation.
5. If a File in Use screen appears, please reboot if prompted to do so.
6. Install the new license. Follow the instructions in the AAC/RPM Overview Manual, 14221-2100-3000.
7. On the Installation Complete screen, select **Close**.
8. To start RPM, click the Start button, select Programs, Harris, Radio Personality Manager, and Radio Personality Manager.
9. To start the On-Line Help system, click the Start button, select Programs, Harris, Radio Personality Manager, and Radio Personality Manager Help, or press F1, Shift F1 (General Help), Shift F1 (Context Sensitive Help), or the Help push button from within the software.

6. PROBLEM RESOLUTION

The following issues were resolved with this release of software:

REFERENCE NUMBER	DESCRIPTION
PROD000100730	When deleting Channel/Group entries in "Multiple Mixed System Zone," the customer wants the cursor to return to the previous entry.
PROD000103752	After loading XGP R02A w/RPM R10A, cannot load mission plan to Unity Portable. RPM says "Connecting To Radio" and locks up until "ACTION FAILED" is displayed.
PROD000109123	Need to gray out the A/B switch settings in Portable Radio Keypad for the XG-25P in RPM.
PROD000113311	When making a new P25C Frequency set using Vote Scan, RPM does not check for Mixed-Mode channels after pressing OK to save frequency set.
PROD000113526	XG-25M Front Mount using IGN A+, Remove IGN A+ and XG-25M will not turn off unless power switch is used - XG-25M Keypad Options screen is corrupted.
PROD000114435	FCC menu cannot be assigned to a keypad button in RPM for portable radios.
PROD000115676	RPM R11A - In the P25 Wide Area (WA) network tab, if you hit OK with no WA info added, or if you delete all WA network information, RPM crashes.
PROD000117193	Radios programmed with RPM Version R10B/R11A will not scan with CG (scans with carrier squelch) due to UICONV table not getting written to radio.
PROD000117969	RPM R11A Portable Radio Options "External Mic Gain" parameter HELP screen is incorrect. This parameter is strictly a Portable parameter.

REFERENCE NUMBER	DESCRIPTION
PROD000118746	P25T sets are not being maintained as global.
PROD000119988	M7300 w/RPM R10B07 and XGP R04C08- Hookswitch disable Channel Guard feature does not function.

7. TECHNICAL SUPPORT

Harris' Technical Assistance Center (TAC) resources are available to help you with overall system operation, maintenance, upgrades, and product support. TAC is your point of contact when you need technical questions answered.

Product specialists, with detailed knowledge of product operation, maintenance, and repair, provide technical support via a toll-free telephone number (in North America). Support is also available through mail, fax, and e-mail.

For more information about technical assistance services, contact your sales representative, or call the Technical Assistance Center directly at:

North America:	1-800-528-7711
International:	1-434-385-2400
Fax:	1-434-455-6712
E-mail:	PSPC_tac@harris.com

NOTES

Harris Corporation, Public Safety and Professional Communications (PSPC) Business continually evaluates its technical publications for completeness, technical accuracy, and organization. You can assist in this process by submitting your comments and suggestions to the following

Harris Corporation
PSPC Business
Technical Publications
221 Jefferson Ridge Parkway
Lynchburg, VA 2450

or fax your comments to: 1-434-455-6851
or e-mail us at: PSPC-TechPubs@harris.com



Public Safety and Professional Communications
221 Jefferson Ridge Parkway | Lynchburg, VA USA 24501
www.pspc.harris.com | 1-800-528-7711