

# Technical Services Memo

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Product: PK - MRK, D2 - Orion	System: Conventional
Part Number: Various	
Maintenance Document: Various	

**Category:** Portable / Mobile

**Subject:** Narrowband capable MRK Portables and Orion Mobiles

**Summary:** These two models of radios are capable of narrowband operation with the correct combination of hardware and software.

**Action:** Verify hardware and software versions using Radio Programmer Maintenance.

1. *Radio Hardware* - The radio must have a switchable (sw) RF board, 512K Flash Size, and a 0x08 RCP revision (Rom Type 8) on the controller board to support narrowband operation. Use Radio Maintenance in Programmer to display the data as shown below and verify narrowband support.
2. *Radio operating (FLASH) code* – Narrowband operation is supported in Group 28a or higher Flash code (Mx28400 or OG28400 or higher, where x= 1 for M-RK1 and x=2 for M-RK SCAN or M-RK II). As denoted by the “Radio Software File Name” as shown below.

**RCP Revision = 0x08**

**RF board suffix = “sw”**

**Flash size = 512K**

The screenshot shows a window titled "Radio Status Information (Read Only)" with a close button. It is divided into three main sections: Radio Status, Personality Status, and Radio Type. The Radio Status section includes fields for Flash ID (4A4), RCP Group (0x0000), RCP Version (0x01), RCP Revision (0x08), ICP Group (0x00), ICP Version (0x00), Control Board (0x0F), RF Board (403-430sw), Ram Size (32K), Flash Size (512K), and Hardware Board (MRK). The Personality Status section includes fields for Personality Version (0x00), Personality Name, Programmer SW Group # (0x00), Programmer Version # (0xFFFF2), Personality and Code Size (306508), Unused Flash Memory (86708), Flash SW Group TQ # (0x4528), Flash SW Version # (0x04), Flash SW Revision # (0x00), and ROM Serial # (98E86C020000). The Radio Type section includes a Close button, Radio Type (0x45), Radio Software File Name (M2G40400), Adi/Dsp Software File Name, Tracking Data Version/Size (SwNB (7) - 88), Feature Encrypted (Yes), ASIC Ver. (0x00), and Hdw Rev. (0x00). Arrows from the text above point to the RCP Revision, RF Board, Flash Size, and Radio Software File Name fields.

**Flash Version = Mx28400 or OG28400 or higher (Group 28a or higher)**

3. *Feature Encryption Code* – The Narrowband option must be enabled in the radio Feature Encryption Code before the radio hardware will function in narrowband mode. Include the “features” entry in the menu, select features and check the list of Feature Encrypted options for feature number “23”. This is the option for Narrowband operation.

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