

# GSM Socket Modem

AL7024S to XM7000S

Migration Document

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## 1. SCOPE

The purpose of this document is to provide XM7000S customers with a general overview of the interface differences between AL7024S and XM7000S modules, and provide a means to integrate the XM7000S product on to a AL7024S compatible platform.

This document may be used as a reference which outlines the electrical, software and mechanical integration required for transforming a AL7024S platform to operate with the XM7000S modem. For further information and detailed specifications please refer to the Developer Manuals of each product.

## 2. INTERFACES

### 2.1 Electrical Interface

In general, the XM7000S is designed with maximum electrical, mechanical and functional compatibility to the AL7024S.

### 2.2 Power Supply

The XM7000S current consumption values may be slightly different than AL7024S. Refer to the Developer Guide for power consumption details.

### 2.3 Serial Interface

The XM7000S incorporates the same serial interface (UART) as in the AL7024S modem.

### 2.4 SIM Card

The XM7000S SIM card interface is similar to the AL7024S modem. The XM7000S also supports the 1.8V SIM cards.

### 2.5 ON / OFF circuit

The XM7000S power-on timing sequence may be different than AL7024S. This may be noticed in the interface signals waveforms during the power up process. The signals logic state will operate as expected after the power up process is complete and the module is fully operational (usually after the UART is enabled).

The XM7000S power-on automatically, when an external power supply is connected, like the AL7024S.

### 2.6 XM7000S vs. AL7024S Connector Signals

The XM7000S provides the same interface connector signals as the AL7024S.

### 2.7 Mechanical Interface

The mechanical design is similar in both the XM7000S and the AL7024S modules.

## 2.8 Connectors

Both modules use a standard MMCX connector for the radio RF interface. The application interface connector is a dual-in-line 64-pin, 2.0mm pitch, 2 rows, board-to-board interconnect type.

### 3. SOFTWARE DIFFERENCES

#### 3.1 Software differences between the AL7024S and the XM7000S, SW Version 4-0.390

Features		
Feature	Status in XM7000S	Value
MUX	Will be supported in future release	
UART	Only UART1 is supported	
Keypad & Display	Not supported	
ODM Feature	Will be supported in future release	
Fax Feature	Will be supported in future release	
Cell Broadcast Message	Will be supported in future release	
Flashing Protocol	The flashing protocol was changed	

AT Commands removed		
Feature	Status in XM7000S	Value
EGPRS	EGPRS commands removed (CGEQREQ,CGEQMIN,CGEQNEG,CEG)	
+MEGA	Email Gateway Address Removed	
+GCAP	Request Overall Capabilities Removed	
CVIB	+ Vibrator alert, Removed	
+MPDPM	PB dynamic Percentage Mem. Removed	
+TCLCC	List of current call Removed	
+MKPD	Keypad control Removed	
+TSMSET	SMS Sending Retry Removed	
+TWUS	Wakeup Reason Set Removed	
+TWUR	Wakeup Reason Request Removed	
+TASW	Antenna Switch Removed	
+TADIAG	Query antenna ADC value Removed	
+MVREF	Motorola Voltage Reference Removed	
+MCELL	Cell Description Removed	
+MNTFY	Notify Indication Removed	
+MPSU	Second UART Removed	
+CKPD	Keypad Control – Not supported	
+CKEV	Keypress Echo – Not supported	
+CDEV	Display Indication – Not supported	
+MREFLASH	Re-Flash Command – Not supported	

AT Commands removed		
Feature	Status in XM7000S	Value
+MFIC	Filtering Incoming Calls – Not supported	
+MUPB	Phone Book Event - Not supported	
+CBM	New CB message receipt – Will be supported in future release	
+CSCB	Cell Broadcast messages - Will be supported in future release	
+MCI	Cell Information - Will be supported in future release	

AT Commands - Updated		
Feature	Status in XM7000S	Value
ATIn command	Values are added and changed	1- Added 2- Changed to 'Motorola GSM Module' 3- Changed to N5
AGC	(Auto. Gain Control) AGC was added to +MAFEAT command	8
+MBC command	Motorola Battery Charger added (Charger Model)	
+CGMI,+GMI,+FMI – Manufacture ID	Support only Execute Mode and not Read Mode	
+CGMM,+GMM,+FMM – Model ID	Support only Execute Mode and not Read Mode	
+CGMR,+GMR,+FMR – Request Revision	Support only Execute Mode and not Read Mode	
+MMAD	- Not support converter number 4- Converters Values = 300-450	
+CFSN	Return Manufacture Serial Number	
+CRTT	18 Ring Tones instead of 41	
Sleep Mode	Wake up duration is 10 ms	
+CMER	<key>,<disp> parameters reserved for future implementation	
+CRLP	Radio Link Protocol, < Retransmission attempts> range is:(006-015) instead of (006-010)	
+CUSD	Support only USSD strings. User action 3,4,5 were added	
AT&K=?	G24-L return: &K: (0, 3-6) instead of &K: (0,3,4,5,6)	
AT+VTS=?	G24-L return: +VTS: (0,1,2,3,4,5,6,7,8,9,A,B,C,D,#,*),(0-600) instead of +VTS: (0-9,*,#,A-D),(0-600)	

AT Commands - Updated		
Feature	Status in XM7000S	Value
AT&Y	G24-L must have a profile value	
AT&Y	<n> instead of AT&Y[<n>]	
+MVC	- G24-L return in Test Mode: +MVC: (0,1),(1-5),(1-5),(1-5),(1-5),(1-5) instead of +MVC: (0-1),(1-5),(1-5),(1-5),(1-5),(1-5) - Must do reset after setting. It is not automatically.	
AT\S	Not all the Status and the S-Registered are displayed	
+CFUN	Parameters 2,3 are not supported	
Direct Dial from PB	No need to add " before and after the name of the PB	
Baud rate	Auto baud rate is only working in specific range (>=1200 bps and <= 115.2K bps)	
CSD	Call Only non-transparent mode is supported	
CSD	Call Escape Sequence command (+++) don't pass to the remote side.	
Commands needs processing	Commands need process as atd,+cops=?,+MIPCALL can not be execute in one line with the ";" separator.	