Technical Services Memo

Product Code: D2, HB, HG	System: EDACS, Conventional, P25
Part Number/Model: Orion, J725M, M7100	
Maintenance Document: Various	

Category: Mobiles

Subject: Interfacing to external audio devices

Summary: For mobile radios, like ORION, M7100 and J725M, to be properly interfaced with an external device such as an encoder, decoder, remote, or cross-band repeater, they must be first PC programmed to accept various input and outputs (I/O's), and secondly, be hard-wired to the proper external device connections. For example, these I/O functions can be an external PTT input, a receiver COR (Carrier Operated Relay) function, and/or transmit and receive audio.

Action: A complete set of instructions titled **MA-COM Mobile Radios - Interfacing External Audio Devices** can be found in the downloads section of TechLink or from TAC by request. A summary of these instructions are as follows:

Enabling an External PTT Input:
Either of the radio's External *Inputs* (INP1 or INP2) can be programmed (mapped) as a Push-To-Talk (PTT) function.

Enabling an External COR (Carrier Operated Relay) Output:
Either of the radio's External *Outputs* (OUT1 or OUT2) can be programmed (mapped) as a Receive COR function. This allows the mobile radio to PTT (key) another radio, or to tell the other device that the radio has fully un-muted and is receiving a carrier.

The table below shows a list of available TX Audio, RX audio, PTT and COR connections to and from the mobile radio.

Function	Input / Output	Pin Description on Cable
Transmit (TX) Audio	Audio INPUT	MIC HI or EXT MIC or XTONENC
Receive (RX) Audio	Audio OUTPUT	VOL HI or XTONDEC or FDISK
TX and RX Audio Ground	N/A	ALO
COR (Mute/Un-Mute)	Logic OUTPUT	OUT1 or OUT2
PTT	Logic INPUT	INP1 or INP2
PTT and COR Ground	N/A	SUP GND

NOTE: Do not attempt to use the Speaker audio connection (P2, Pins 1 & 2) for external devices that can not handle high level audio. This high output connection delivers 15 watt RMS with a DC component into a 4Ω balanced output. An external device or the radio could be damaged if either line is grounded. It is recommended to use a 1:1 audio transformer.

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P25

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