

October 20, 2003

Mr. Andy Leimer
Federal Communications Commission
FCC Laboratory Division
Equipment Authorization Branch
7435 Oakland Mills Road
Columbia Maryland 21046

Mr. Leimer,

With regard to your email of September 23, 2003 concerning FCC ID OWDTR-0019-E, under 731 confirmation number EA696957, I am providing explanatory discussion to each of the items you presented. Each numbered item is reproduced in this letter for continuity.

1) Please clarify nominal conducted output power rating for this device, and power per 90.205(q). Form 731 line item should list nominal power. The Test Report says 150.6 Watts and the form 731 line item says 50 Watts.

Response: The power discrepancy was a keyboarding data entry error. The correct conducted output power rating is 51.48 dBm, as reflected in the revised Test Report uploaded to the FCC web site. Additionally, M/A-COM, Inc. does not believe that 90.205(q) applies in this case. M/A-COM, Inc. is filing for an equipment authorization, not for a license of system operation.

2) Due to the higher power and low MPE limit (0.2 mW/cm^2) in human body resonance freq. range, additional information is needed to assure RF exposure compliance. MPE estimation establishes a larger bystander compliance distance than can be maintained just based on sizes of most vehicles. An MPE test report for typical installation configuration may be useful, including field data vs. horizontal distance.

Response: MPE estimations have been filed in the report previously loaded to the website. Although a test report showing results of field intensity vs. horizontal distance from the active element may provide interesting data with regard to today's vehicle body styling, M/A-COM, Inc. believes that EM wave radiation from the quarter wave element, located in the center of the vehicle, will not be materially changed as a result of a new radio model.

Microphones are tagged with warning labels directing the user to use information in the User and Installation manuals. With the corrected reports submitted to the FCC website, the exposure distances have been reduced as well as the power levels.

An error in the previously filed MPE report has been corrected, resulting in a somewhat shortened MPE distance for both uncontrolled and controlled cases. The updated MPE report has been loaded to the FCC website.

3) Related to 2), please clarify distance for gen. pub. MPE compliance, and provide more details of how it can be ensured that operator will limit transmissions when persons are close to vehicle. MPE estimate done at 116 W - EMC report pg 9/62 shows 141 W, SAR report has 144.5 W which gives bystander minimum MPE compliance distance of approx. 3.07m with 3dBd=5.15dBi antenna.

Response: The distances for general public and occupational, are detailed in both the User and Installation manuals. Operator transmission limiting is provided through operator training by the user's Communication Officer or other responsible party. Additionally, microphone labeling is incorporated directing the user to use information contained in the manual(s). Within the manual are user available websites and M/A-COM telephone numbers where additional assistance may be obtained.

These manual's, which follow the content driven scope of TIA TELECOMMUNICATIONS SYSTEMS BULLETIN, PRIVATE LAND MOBILE RADIO (FCC PART 90) TWO WAY MOBILE AND PORTABLE EQUIPMENT RF EXPOSURE (EME) LABELING, PRODUCT MANUAL, USER AWARENESS, AND CONTROL INFORMATION TO MEET FCC MPE/SAR GUIDELINES, TSB 133 June 2003, have been loaded to the FCC website, and are available for your review.

4) Please submit occupational label and label installation exhibit, e.g., with label on microphone cord.

Response: The FCC website has been loaded with jpg files showing the installation exhibits requested. It is the product warning label format as recommended in TIA TELECOMMUNICATIONS SYSTEMS BULLETIN, PRIVATE LAND MOBILE RADIO (FCC PART 90) TWO WAY MOBILE AND PORTABLE EQUIPMENT RF EXPOSURE (EME) LABELING, PRODUCT MANUAL, USER AWARENESS, AND CONTROL INFORMATION TO MEET FCC MPE/SAR GUIDELINES, TSB 133, June 2003. The installation exhibits show three microphones and a hand controller. There is a standard microphone, a noise cancelling microphone, and a DTMF microphone. The handheld controller is also shown. There is no artwork drawing supplied, as the format is from the described source above; our microphone supplier installs the product warning label.

5) SAR report is not relevant for this filing. Please inform if you wish to withdraw the exhibit.

Response: Although the SAR report is not required, M/A-COM, Inc. believes SAR provides the best estimation of exposure distances, as addressed in NPRM FCC03-132, Subsection H, paragraph 44. We believe it is relevant and wish to have it remain part of this equipment authorization filing.

6) Please revise user manual to include more description of occupational vs. general limits and personnel to which these apply.



Electronics

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Response: FCC website has been uploaded with User and Installation manuals which reflect the content of TIA TELECOMMUNICATIONS SYSTEMS BULLETIN, PRIVATE LAND MOBILE RADIO (FCC PART 90) TWO WAY MOBILE AND PORTABLE EQUIPMENT RF EXPOSURE (EME) LABELING, PRODUCT MANUAL, USER AWARENESS, AND CONTROL INFORMATION TO MEET FCC MPE/SAR GUIDELINES TSB 133, June 2003. A two-category table is included, with user direction on the meaning and information on how to obtain more information and instruction if desired.

7) Please describe "authorized" antennas referenced in users manual, including length, gain, model #s, etc. It is preferred to use only 0dBd or lower gain.

Response: The User and Installation manuals reference the M/A-COM part number for a quarter wave antenna. This antenna is made for M/A-COM, Inc. by Antenna Specialists, which is now Andrews Corporation. The antenna is Andrews model number ASP1810MA, which has unity gain or 0 db. This data sheet is loaded to the website as well.

8) Please confirm whether antenna(s) will always be roof-mounted, to minimize back-seat passenger exposures.

User manual, Installation manual, and installation instructions packaged with the antenna by the manufacturer - Andrews Corporation, all specify that the antenna is intended for center roof mounting.

Sincerely,

Daryl Popowitch
Engineering Project Manager

M/A-COM, Inc. – Lynchburg, VA