CONFIDENTIALITY REQUEST CONTAINED WITHIN

8 January 2001

Federal Communications Commission
Authorization and Evaluation Division
7435 Oakland Mills Road
Columbia, Maryland 21046

Re: Application for Non-Broadcast Transmitter Certification (Part 90, Subpart I) - B3ACAP2001M125

Motorola, Inc., Systems Solutions Group, 8201 E. McDowell Rd, Scottsdale, Arizona 85252 herein submits this application for Equipment Authorization under FCC Rule Part 90, Subpart I for this Non-Broadcast Transmitter, FCC ID: B3ACAP2001M125. The Capricorn 2001M/12.5 is manufactured by Sercel, Inc. located at 3041 Orchard Parkway, San Jose, CA 95134-2017.

In addition to confidentiality for the entire application prior to grant (per 47CFR0.457(d)(1)(ii)), Motorola requests, pursuant to 47CFR0.459, post-grant confidentiality for identified sections of the filing material contained in this application with this material being withheld from public inspection following the grant of this authorization. This material includes Exhibit 4, Block Diagrams, Exhibit 5, Schematic Diagrams, and Exhibit 12, Operational Description, including any Internal photos or layout drawings. Specifically, these exhibits contain information relating to circuit function and complexity that could be of benefit to competitors. This material contains Sercel's trade secrets and confidential information which is not customarily released to the public and which, otherwise, is not generally available to the public.

We wish to file for operation of this unit over the 450 to 470 MHz frequency band. This band contains multiple 12.5 kHz channels interspersed with channels of other size. When operating in this band, all rules and restrictions contained in FCC Rule Part 90, Subparts B and C will be observed. Only those channels designated for 12.5 kHz will be used.

Please contact me by telephone at (480) 441-8761, by facsimile at (480) 441-3625, or by email at brian.martin@motorola.com if there are any questions or additional information needed regarding this filing.

Sincerely,

Brian Martin
EMC Engineer
Motorola IISG

Attachment to Application for FCC Type Acceptance

Applicant: Sercel Incorporated
FCC ID: B3ACAP2001M125
Model: 2001M/12.5

Subject: Efficiency Standard
Reference: FCC Rules, Part 90.203(j)(3)

1. The Capricorn 2001M/12.5 transmits a GMSK emission at 5000 bits/second. The occupied bandwidth conforms to the requirements of Mask D of 90.210(d), and the measured 99.75% power bandwidth is 5.53 kHz. Therefore with 5000 bps in a 5.53 kHz necessary bandwidth (actual), the spectrum efficiency is 5000/5.53 = 904 bits/second/kHz. This compares very favorable to the spectrum efficiency required by the FCC rules, i. e. 9600 bps per 12.5 kHz channel = 768 bps/kHz.

2. This system is to be used to track a fleet of vehicles in a designated area. For a system of this size and with this sort of application, optimum system efficiency is achieved with a data rate of 5000 bps. The Applicant has determined that increasing the data rate would increase the error rate, which in turn would require the individual stations to be on–air longer for error correction. This fact as well as the international market for this specialized product, and the need to comply with ETS 300 113, have all been factors in determining the data rate for this product.

3. Accordingly, the Applicant requests type acceptance for the Capricorn 2001M/12.5 as presented in the accompanying report; that is, for a system using 12.5 kHz channel spacing and transmitting data at 5000 bps. Additional details are provided in the attached explanations by the Applicant.

SERCEL - Téléfax 33/40.30.19.48 - Tél. 33/40.30.11.81 - Télex 710695 F

TELEFAX N° 001-602-926-3598 Date 06/03/1997

A / To Tom CHATHAM & Bill GRAFF

MFA

De / From Bertrand Tisou Folio 1 / 2

Dear Tom,

as planned during our phone call, find enclose some explanations.

1/ why 12,5 kHz channel spacing?

In France the only applicable standard is the ETS300113. This standard impose a minimum channel spacing of 12.5 kHz.

Otherwise, it request that the energy of the adjacent band be -60 dBc under the nominal power level.

Having chosen a GMSK modulation, we obtain, with a 5000 bits/second bit rate, an energy of the adjacent band equal to -62 dBc under the nominal power level. That is right with ETS300113.

Knowing that with a GMSK modulation, the bandwith is equal to 1.5 multiply by the bit rate (1.5 x 5000 bits/second = 7,5 kHz), it means we can't have more than 5000 bits/second bit rate, because with a biger bit rate the spectrum will be wider and the energy of the adjacent band too high.