

## Memorandum

To Fred Tarter  
Jon Spencer

Fr Harold House

Date December 22, 2004

Re: Satellite Radio

We have looked at the issue of reception of emails via a satellite radio link. Without in-depth technical knowledge of the hardware and programming in the system as it is currently configured, we cannot say with absolute certainty that this can be done. Our impression is, however, that reception and reply (initiation) can be accomplished with fairly little effort.

Putting aside the discussion as to the level of subscription, the technology issues are fairly straightforward. If we assumed the following, a reasonably easy system can be envisioned:

1. There needs to be an intermediate “email address” that is under satellite control. That would be a mailbox to which mail could be either forwarded or directly address as in [fredt@sirius.mail.com](mailto:fredt@sirius.mail.com). We would look to filters to reduce the potential for spamming. Also the mailbox would be an “stopping point” where messages could be configured and filtered...there may also be questions of language content controls etc. but we don’t have a handle yet on legal issues.
2. At the onset, we think that origination of emails should come from both PC and phone. We are investigating the use of a common microphone to uplink to the mail system but that would require a good amount of heavy lifting. **A more elegant solution is a wireless addition to the radio that connects to a dedicated 800 line and permits interaction with the mailbox.** This is easy to do. It also justifies a usage fee.
3. Down linking on a dedicated channel requires that the receiver have a broadcast identifier. It would be possible to isolate reception by having some localization password filtering. The broadcast can batch out the signals (messages) and although the receiver will pick up a wide number of messages, a coded entry at the receiver level will permit filtering. That appears to be the easy way around the issue but care would be taken to keep from open browsing and hacking.

To the issue of security, we believe that the only acceptable standard would be as “secure as online emails”.

The actual set of solutions is not terrible difficult or complicated as all technology necessary is certainly "off the shelf". The solution relies more on cleverness than on anything else.

An intermediate solution was suggested whereby we bypass the satellite completely. Most of these networks have built in AM-FM receivers so that local news, etc. can be accessed. With a "built in phone" as mentioned in #2 above and the incorporation of a limited range transmitter from the digital phone signal, and a receiver that plays out only on a "blank channel" of choice, a very easy system can be configured. The radio would become the speaker. We could "ping the phone" when a message is received and it could, in turn, ping the radio station with an announcement that there is email waiting.

Not knowing the satellite capacities, the obvious route is to find if a dedicated satellite phone link can be established. In that way, reception problems would be mineralized.

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This is the first memo on this subject. Please expect more within the next days.

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