Dear Mr. Flom,

Thank you for your business. I have the following comments and issues to resolve to issue your grant.

1. For your information, no response needed, I note on page 12 of the test report that you refer to a filing with the FCC made in 1997 and also to an update due in 2003. Clearly, you should have made a filing in March of 2000 and received confirmation from Tom Philips about it. I suggest that you make this clear in this area of the report. Someone might conclude from what is written that you think you only need to update your filing every six years.

2. Couple of typos in the RF exposure report had me confused for a second: page 7 left margin, the RF exposure limits are in 1.310, not 1.210. and the frequency breaks in the limit table are at 1.34-30MHz, not 1.34-300MHz.

3. The label shown in the last exterior photo shows an FCC ID of ATH2422001. Labels shown in the internal photos also have this ID. Please confirm that these photos are for the FCC ID ATH2422001-1 relating to this submission.

4. I do not understand the inclusion of the file FCC_info_safety-Statement. It refers to mobile radios being safe if installed at a 1 meter distance from people, yet your RF safety data indicates that this unit must be installed 3.3 meters from people. Please explain the inclusion of this exhibit.

5. I do need a signed copy of the attached certification agreement between Curtis-Straus and E.F.Johnson. I have attached a blank copy of the agreement. I will need this ONCE ONLY from each company. I no longer need the "TCB application" form you submitted. It was too duplicative of the FCC form 731 and has been discontinued.

6. The manual is for a different model number than that tested and for a unit with a different power level (110 watts vs. 125 watts). Why is this manual sufficient?

7. Please justify why you did not submit photographs of the other side of the RF boards in the unit. I appear to only have the component side for RF interface board, power amplifier assembly, exiter board, and receiver board. It appears that I have two copies of the same side of the power amplifier assembly.

8. Your agency letter is dated more than a year ago. Please submit a new agency letter dated within a year.

9. Please explain how the unit complies with the requirements of 90.203 (j)(2) and include the certification statement required in 90.203 (j)(3).

10. I would like to discuss the treatment of ERP and conducted power output in your experience. The limit in part 90 is ERP and you have presented data for direct conducted power. I have looked at a previous grant and I see just the "output watts". I would like your input as to how the FCC has historically treated this issue.

11. How do you address the 90.219 limits on signal boosters. You call this a "repeater". It seems to be a signal booster to me and 90.219 limits these to 5 watts ERP. Where does this device fit in the rules?

12. Please tell me which of the occupied bandwidth plots are 11K0F3E and which are 16K0F3E.

Sincerely,

Jon Curtis

Dear Mr. Flom,

Please see my comments below: I understand your frustration with the issue of training a new assessor, but I promise to be a quick study and not to make you repeat lessons over.

Martha Flom wrote:

> This message has been dictated by Mort Flom
>
> Jon: Thanks for your e-mail and comments. We have been
> dealing with the FCC since 1970, have weathered the previous changes in
> staff, educated the new Examiners and are now trying to survive and
> overcome their present meritricious, impractical gyrations. Learn as
> you go.....
>
> Item l. Our site was renewed by Tom Phillips of the FCC on March 13,
> 2000 for another 3 years...verify this on the FCC website. Thanks for
> bringing the old date to our attention...we will update our database.
>

OK

>
> Item 2. Limits are in Rule 1.1310 (not l.310 in your e-mail). We will

> correct all typos in our database. To your knowledge, has anyone done
> MPE in the l.34-30 MHz range?
>

OK. No I have never seen an evaluation in the 1.34-30 MHz range, but that may be because of my limited experience with high power transmitters.

>
> Item 3. The Applicant added the -1 after we received photos. In our
> prior dealings with the FCC, the label drawing is the ruling document.
> Photos are used to show label location. Our confirmation: the photos
> are for the FCC ID; ATH2422001-1.
>

My experience with the FCC agrees with your experience with the FCC. Only occasionally did Philip Ingles make me re-write an entire application to change the FCC IDs (but he did do it a couple of times). I just wanted your confirmation. It is possible that a clerical error resulted in the wrong photos being submitted.

>
> Item 4. An error in our software...thanks, this will be corrected. We
> tested for MPE @ 3.3 meters. EFJ has shown 4 meters in their Warning
> Statement, which should be acceptable....yes?
>

OK. I will disregard the FCC_info_safety_statement file submitted with the original application.

>
> Item 5. Attached you will find signed copy by us as Agent for the
> Applicant. Our clients designate us as their Agent to eliminate or
> reduce the 'red tape'.
>

OK.

>
> Item 6. FCC has always accepted 'preliminary' manuals with the
> understanding that any significant changes can be covered by the client
> by Notices and/or Addenda.
>

Yes, I understand this. I just want you to confirm that this is the correct manual for this submission and not a clerical error. E.F Johnson has over 400 submissions at the FCC, indicating a lot of products. It seems possible that

they might have supplied the manual for a different product in error. In the future, when you submit a manual where the power output levels and model numbers are different from those measured or from the maximum power claimed you should make a note of that in the cover letter or in a cover sheet on the manual. That would eliminate this question.

>
> Item 7. Please see internal views photographs on the CD sent via FEDEX
> to you .
>

I have examined the photos and I still find:

In the file "internal photos.pdf" five photos:
1. Component side of the RECEIVER
2. Component side of the RF INTERFACE BOARD
3. Component side of the POWER AMPLIFIER assembly.
4. An expanded view of the component side of the POWER AMPLIFIER.
5. One component side of one of the three non-RF control boards.

In the file "internal photos2.pdf" five photos:
The other five sides of the three non-RF control boards.

I still do not see the other sides of the RF boards. Now I know that I do not have a lot of experience with what Frank has required in the past of licensed transmitters. For my submissions I have always provided photos of both sides of all PCBs in the unit. I am inviting you to give me a justification based on your historical experience with the FCC/Frank which says you don't need to submit the other side of those boards. It looks like further disassembly would be a pain and that the manual has pretty detailed trace layouts which seem to show the non-component side of the board. BUT I don't want an application/grant to be rejected by the FCC because I didn't include photos that they want.

>
> Item 8. Agency letters which are not specifically related to any one
> project or product, have been prepared on a 'valid until further notice'
> basis. The FCC has NEVER required us to have these updated on a yearly
> basis.
>

OK.

Well, in 1989 they made me get new agency letters when they were more than a year old and I've been doing it ever since. It was a real pain and I sympathize with your desire not to do it. I went back to my rule book and 731

form and I can still find no justification for the one year rule and so I will accept your statement. I am also going to check with the Equipment Authorization branch and I will let you know if they want the agency letters to be dated within a year.

>
> Item 9. The FCC has always accepted our test data as shown on pp. 16 to
> 21 and 24 to 31 of the Report as meeting the requirements of
> 90.203(j)(2) and 90.214 respectively. Similarly, test data per pp. 16
> to 21 have also always been accepted by the FCC in l ieu of a statement.
>

Yes, but...
90.203(j)(3)(i) - your 12.5 KHz bandwidth complies with this
90.203(j)(3)(ii) - your 25kHz bandwidth may comply with this if it "is multi-bandwidth mode equipment with a maximum channel bandwidth of 25kHz if it is capable of operating on channels of 12.5kHz or less" I invite you to tell me if your unit meets this and to explain it to me.
90.203(j)(3)(iii) - your 25Khz bandwidth may fall here, but then you need to submit a statement that the unit meets a spectrum efficiency of 12.5kHz per 90.203(j)(3).

To me it seems that the purpose of this section is to obsolete 25Khz single channel equipment over time. In plain english, from 1997 no single channel equipment which hogs 25Khz may be approved. You have requested a bandwidth greater than 12.5kHz and so I need to understand why I should allow this request.

I realize that this is a repeater and therefore redeploys incoming signals and that it is possible that these could be viewed differently. I invite you to educate me as to how these units are viewed by the FCC at this time.

Examples of 25kHz bandwidth equipment approved for part 90 after 1997 would be persuasive. If you give me the FCC IDs, I'll look them up on the FCC's computer.

>
> Item l0. Let us discuss Part 90 devices with integral antennas which
> require open field radiated measurements to be shown in ERP or EIRP (per
> Part 90.203(a)(2) as applicable. Under Rule 2.1046, conducted power is,
> and has been , FCC acceptable for devices with antenna connectors. For
> spurious emissions Rule 2.1051 applies with conducted limits shown in
> 90.210. Of course, Rule 2.1053 would apply for spurious radiation.
> Again, limits per 90.210 with data presented in dbc.
>

OK.

> Item 11. EFJ calls this device a repeater per manual, and does not
> transmit on exact frequency as received, i.e. exact frequency of
> originator.
>

OK, I reviewed the presentation of Frank Cooperich and I now understand his notes better. Thanks.

>
> Item l2. See Report pp l6 to 21. The 'lean' plots (pp.l7, 20) are for
> 12.5 KHz bandwidth and the 'fat' ones (pp l8,21) are for 25 KHz
> bandwidth. 11K0F3E and 16K0F3E respectively. Live and learn!
>

OK, I suspected as much but now that you have told me I am sure.

Dear Mr Flom,

You are indeed "cool." Attached please find your grant. EA number is EA98712. If that doesn't work try TC98712. I get the TC number when I originally file the 731 form and the EA number when I upload the exhibits.

I haven't finished uploading all the exhibits yet as some are quite large.
I expect to get back at it on Monday.

Sincerely,

Jon.

Martha Flom wrote:

> This message has been dictated by Mort Flom
> Jon:
>
> Items 1 and 2 are taken care of.
>
> Item 3. (TCB note: comment deleted)
>
> Item 6. We also had a go-thru with EFJ re the manual and was assured
> that what you have is their latest as supplied by them. Thanks for the
> advice - in the future we will highlight or advise you of any current
> applicable changes.
>
> Item 7. We have advised the Applicant concerning your request for the

> photos of the solder side of the boards. They have just phoned to
> advise that the solder side of all boards are shown in grey on the
> relevant photos. Acceptable explanation?
>
> Item 8. 1989 is a long time past and many personnel changes at FCC have
> occurred. These persons have their own interpretations and have to be
> 'educated'. It is okay to check with the FCC regarding Agency letters,
> but in my opinion and experience you may be opening up a 'can of
> worms'...if it ain't broke, don't fix it!' We have NEVER had a request
> to up-date any Agent Authorization letters - some as old as 5 years if
> the same signing officer is still there! (We will be spending more time
> on paperwork than on testing!).
>
> Item 9. As you know, FCC wants to see all parameters tested for which
> the equipment is capable...W.S.S. (Worst Case Syndrome - a terrible
> disease!) The FCC will no longer accept 25 KHz bandwidth without l2.5
> KHz. Test Report must have BOTH or l2.5 KHz as a minimum (as of current
> date). Since you are insisting, here is the Statement:
>
> " The E.F.JOHNSON COMPANY's FCC ID; ATH2422001-1 meets the
> spectrum efficiency of l2.5 KHz per CFR47 Rule 90.203(j)(3)."
>
> (The Applicant is NOT requesting that its equipment be certified for
> data transmission - only for F3E).
>
> Example of 25/l2.5 Khz equipment approved by the FCC: K66VXR-7000U.
>
> Are we 'cool' now? Can the Applicant expect an EA number?
>
> Sincerely, MORT FLOM, P. Eng. MFA INC.