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222 Hartrey Avenue
Evanston, IL 60202-3696 • U.S.A.

June 17, 1999

Mr. George Tannahill
FCC Application Processing Branch

Re: FCC ID DD4PA770
Correspondence Reference Number: 8278
731 Confirmation Number: EA93903
Date of Original E-mail: 06/16/1999

Dear Mr. Tannahill,

With respect to the questions you raised in your E-mail message of the above date:

1. The device for which approval is being sought is a transmitter combiner. It has four inputs and one output. Therefore, the device is capable of outputting a signal which is the combination of up to four signals. Normally, it would be expected that these signals would be on different frequencies. Intermodulation test data is being provided to you in conjunction with this letter.

2. The input and output bandwidth plots are virtually identical, since the combiner does not change the emission signature. The plots submitted are being annotated to attempt to show more clearly which plot applies to the input and which applies to the output. However, since the plots are so nearly identical, this may be difficult to distinguish.

3. The emission designator given was for a type of Part 74 Low Power Auxiliary Station transmitter, FCC ID DD4P7T, that is intended to be used with the combiner. That transmitter's Emission Designator, shown on its grant, is 196KF8E. This designator is appropriate for that device, since the transmitter uses the standard Zenith-GE time division multiplex method of stereophonic audio transmission. As you pointed out in your message, it would probably be appropriate to state "combiner" on the grant for device DD4PA770, rather than a specific emission designator. This was done on a previous device of the identical type, FCC ID DD4PA760, which operates in a different frequency range of 620-670 MHz.

4. Since the device is a combiner, the power output would normally be dependent upon the exact power of the input signal(s). The transmitters that the device is intended to be used with have a maximum power output of 0.1 Watts. The power output specification that you referred to is for an internal test procedure. The product gain specification is 0 dB, +2dB and -4 dB. This means that a single test signal of +10dBm at any of the inputs should produce an output falling within the range of +12 dBm and +6 dBm. This variation normally causes no operational difficulty for the user. As a reminder, this device is for use as a Low Power Auxiliary Station, and is not intended to be used for broadcasting directly to the public.

We recommend that the grant show a power output of 0.1 Watts, perhaps with a notation that this is with a single input driven. Again, this device is essentially identical to FCC ID DD4PA760, which has a power output of 0.1 Watts specified on the grant.

The test laboratory also measured the spurious radiation which the device produces with no input signals, at 17.5 dB microvolts. This low radiation level is essentially due to the switching power supply, since the PA770 combiner has no internal signal source or clock signal.

5. Since the device is a combiner, which is a type of amplifier, no necessary bandwidth needs to be listed on the grant. Please see item #3, above.

I trust that the above information will be helpful to you. If you have any further questions, please do not hesitate to contact me.

Sincerely,

Edgar C. Reihl, P.E.
Principal Engineer
Shure Brothers Incorporated
Telephone: (847) 866-2289
E-mail: ereihl@shure.com