

7 November 1958

MEMORANDUM TO THE FILE

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FROM: [REDACTED]

SUBJECT: Trip Report to [REDACTED]

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1. On 20 October 1958 a visit was made to [REDACTED] N.Y. The purpose of this trip was to gather information on their new transistorized Audio Frequency Carrier multiplexing equipment. The meeting was between [REDACTED] and the writer. We discussed the specifications and prices of this equipment. Only a few of the chassis were available for inspection. A physical inspection of the AFC transmitter and AFC receiver revealed that they were well designed and constructed. These units featured a substantial reduction in weight, size and power consumption. See attached brochure for specifications. The following prices were obtained:

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Frequency Shift Tone Keyers Type 211 Model 1
\$200.00 per channel (AFC transmitter)

\$100.00 per Power Supply (Handles up to 18 AFC Transmitters)

\$150.00 per shelf (can accommodate up to 18 AFC Transmitters and 2 P.S. units. Also, the shelf contains automatic power supply switch-over facilities in case of P.S. failure)

\$2950.00 Total price of 18 AFC transmitter with two power supplies and mounting shelf.

Frequency Shift Tone Converters Type 212 Model 1

\$330.00 per channel (AFC receivers)

\$100.00 per Power Supply (Handles up to 9 AFC receivers)

\$100.00 per shelf (can accommodate up to 9 AFC receivers and 2 P.S. units. Also, the shelf contains automatic power supply switch-over facilities in case of P.S. failure)

\$6,540.00 Total price of 18 channels with four power supplies and two mounting shelves.

SUBJECT: Trip Report [REDACTED]

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2. On 20 October in the afternoon, I proceeded to [REDACTED] Labs. in Freeport L.I., N.Y. This visit was made in conjunction with the testing of a Frequency Division Multiplex system being conducted under Project E-5103 (multiplex Systems for Base to Sub Base Stations Communication).

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3. During the previous two weeks 6 October thru 17 October John [REDACTED] of GC-E was at [REDACTED] working out equipment troubles and monitoring scheduled testing, as mentioned in his trip report for that period.

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4. October 21 and 22 were spent monitoring scheduled testing and trying to determine the reason for poor copy on 6 channel multiplex. By visual and aural monitoring of the signal it was determined that errors in groups of 3 or 4 characters at a time were the result of fast fading of the received signal. The trouble was traced to the Motorola AFC receivers. The ability of this equipment to react and adjust to fast changes in signal level is relatively poor and saturation of the limiter stage could not be maintained during fast fades.

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5. [REDACTED] had several suggestions for means to correct for a fading signal, use a control circuit to adjust the gain faster during fast fades and frequency and time diversity. No decisions on what approach should be taken were made during my stay at [REDACTED]. The writer returned to Washington on 23 October 1958.

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6. Future plans are; obtain receive converter equipment specifically designed for High Frequency use, run a few more days of testing and compile a final project report on the testing of this system.

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