

Office Memorandum • UNITED STATES GOVERNMENT

TO : The Files

DATE: 29 August 1958

FROM :

[Redacted]

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SUBJECT: (Conference Report - [Redacted] RS-16B Fabrication, [Handwritten])

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1. On 13 August 1958 a conference was held at Alcott Hall to discuss the fabrication of 10 RS-16 High-Speed Agent Sets being undertaken by the [Redacted] under RD-103, T.O. 10. Present at discussions concerning this program were:

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[Redacted]

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2. [Redacted] reviewed the changes called for in the present task for RS-16 fabrication:

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- a) the coder mounting plate will be stainless steel instead of aluminum and the gear train and bearing materials will be improved. The tape will be rerouted and its tension changed in order to eliminate jitter in the output pulse.
- b) a 12-volt 5-ampere-hour cell will be used and its case will have a connector for battery charging.

3. The [Redacted] proposal suggested a one-half inch increase in each dimension of the RS-16 to make the interior of the equipment more accessible. [Redacted] pointed out that investigation has shown that if this change is made, costs will increase greatly since the present case is a standard size readily available, and a new case would require tooling. [Redacted] now plans to retain the present length and width dimensions, but to use a wrap-around case with removable top and bottom panels. The overall height will be increased by one-sixteenth of an inch, due to an additional o-ring used to keep the RS-16 waterproof. The removable bottom panel will allow rapid access to the interior of the equipment for frequency changing and other adjustments. The wrap-around case, which is removed only for major overhaul, will strengthen and protect the chassis while the equipment is being serviced.

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4. In the area of product improvements [redacted] and [redacted] proposed the following changes:

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- a) Simplification of frequency changing by elimination of the mechanical linkage between the HFO and buffer/driver. The entire assembly to be redesigned around a new switching plate.
- b) Replacement of the special 55°C crystal oven with a standard 75°C oven so that CR-27 crystals may be used. These crystals will be used on all four bands - overtone crystals for band 4 will no longer be required.
- c) Since even the best printed circuit boards are susceptible to moisture penetration, the critical HFO in the transmitter should be constructed on a steel plate with components mounted on teflon feed-through insulators.
- d) Standard headphone pin jacks should be used in place of the special audio output connector used in the original RS-16.
- e) The low voltage bias supply should be regulated by means of a Zener diode.
- f) A mu-metal case around the sequence timer and high voltage power supply should be used to reduce interaction between stages.
- g) The high voltage power supply for the RS-16 may be transistorized for higher reliability and efficiency.
- h) The keyer amplifier is felt to be overly elaborate and an experimental unit with half as many components has been built which performs the same functions.

5. All of the above recommendations were approved. At a conference later in the day at [redacted] it was decided that these changes would be incorporated into the [redacted] RS-16 units as well as those being made by [redacted] will furnish printed circuit boards for the revised keyer amplifier, and [redacted] will provide [redacted] with details of the redesigned HFO as soon as they are available.

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