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Director of Logistics

Director of Communications

Please Return To
Engineering Staff

OC 9298

Initiation of Fixed Price Contract

16 MAY 1960

1. This Office has a requirement for a quantity of DC-to-DC converters, designated the PS-8. The PS-8 will permit a number of existing agent receivers to be operated directly from 6 or 12 volts DC, thereby increasing their flexibility.

2. Proposals were requested from four contractors of which two submitted quotations. Of the two, the proposal submitted by the [redacted]

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[redacted] has the best delivery schedule and is lower in cost.

3. It is requested, therefore, that a fixed price contract be established with the [redacted] Incorporated, for the fabrication of two prototype units and 50 service test models of the PS-8 as described in Specification No. 60-A-1107-A and the contractor's proposal, both of which are attached. Attached also is Requisition No. MSB 60-557 indicating that the allotment to be charged for this project is 0179-0010-0000. Funds in the amount of \$18,200.00 have been encumbered for this project. The equipment resulting from this contract will be UNCLASSIFIED; however, association of the contract with the Agency is classified SECRET. The cognizant project engineer for this program is [redacted]

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1. Contractor's letter dated 5 April 1960
2. Contractor's letter and Cost Breakdown dated 5 May 1960
3. Specification No. 60-A-1107-A dated 30 December 1959
4. Requisition No. MSB 60-557

Distribution:

- Orig. + 1 - Addressee w/attach.
 1 - R+D Subject File w/o attach.
 1 - [redacted] w/o attach.
 1 - OC-T w/o attach.
 1 - OC-A w/o attach.
 1 - MSB w/o attach.
 1 - OC-E and EP Chrono w/o attach.

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Classification:

R+D

OC-E

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OC-T

OC-A

OC-P

DD/CO

OC-E/R+D-EP/CWS:pjb (12 May)

File

SPECIFICATION NO. 60-A-1107-A

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SPECIFICATION

FOR A

DC-TO-DC CONVERTER, FS-8

30 December 1959

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1. Scope

- 1.1. This specification covers the general requirements for a DC-to-DC converter, designated PS-8, which converts 6 or 12 VDC to proper voltages for operation of any one of three receivers.

2. JAN Specifications

The JAN Specifications, of the issue in effect on date of invitation for bids form a part of this specification. Where the requirements of JAN Specifications and this specification conflict, requirements of this specification shall govern.

2.1. JAN Specification Waiver

The contractor may, due to cost or time, ask for waivers to JAN Specifications. Such specific waivers may be authorized by the Government, but only after review by Government engineers and prior to submission of the prototype model.

3. Requirements

3.1. General Specifications

- 3.1.1. The PS-8 shall be capable of continuous operation without malfunction at ambient temperatures of -40°C to $+55^{\circ}\text{C}$. The equipment shall be capable of being stored without injurious effects at temperatures of -60°C to $+60^{\circ}\text{C}$.

3.1.2. Non-Fungus Nutrient Materials

Materials which are used in the PS-8 shall be non-nutrient or protected against fungi.

3.1.3. Size and Weight

The PS-8 shall be finished in a metal case measuring approximately 2" x 4" x 2" or smaller. Minimum weight shall be a design objective.

3.1.4. Quality of Design and Fabrication

The electrical and mechanical design of the PS-8 shall be directed towards the delivery of a miniaturized quality product reflecting the highest possible degree of reliability when exposed to the normal rough handling encountered during usage.

3.1.5. Electrical Requirements

- 3.1.5.1. Operation of the compatible receivers when powered from the PS-8 shall be normal in all respects, with no interference or erratic operation introduced by the DC-to-DC converter. No modifications whatsoever shall be required to the receivers utilized with the PS-8.
- 3.1.5.2. The PS-8 shall operate the receivers within their normal tolerances at any battery voltage between 10.5 volts and 13.5 volts DC on 12-volt operation, or on 6-volt operation between 5.25 volts and 6.75 volts DC.
- 3.1.5.3. Provision shall be made to the PS-8 to prevent damage to the compatible receivers in the event of accidental reversal of leads to the battery or misconnection of the 6-volt lead to the 12-volt supply terminal.

3.1.6. Marking

The PS-8 unit shall be identified by the following legend on a removable metal plate affixed to the unit: PS-8 Serial No. _____. Serial numbers will be designated after contract initiation.

3.1.7. Finish

The PS-8 shall be a non-specular black.

3.2. Design Requirements

The PS-8 is a DC-to-DC converter which allows operation of any one of three receivers, _____ from a 6 or 12 volts source. If necessary, these receivers will be GFE to the contractor.

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3.2.1. DC-to-DC Converter

The PS-8 shall convert inputs of 6 or 12 volts DC to the following outputs:

100 volts DC at 25 milliamperes (regulated)
6.3 volts AC or DC at 1.2 amps
1.5 volts DC at 300 milliamperes

The AC ripple shall not exceed 1% and the regulation of the 100 volt supply shall not exceed $\pm 3\%$. The PS-8 shall contain a four prong socket compatible with the power cable of the _____ and a four prong socket compatible with the power cable of the _____

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3.2.2. Power Cable

A three-foot power cable with battery clips shall be permanently connected to the PS-8.

3.2.2.1. Special Cable

A cannon DE-9S connector with power lugs, shielded antenna lead, and audio leads shall be provided as accessory equipment to the PS-8. Pin connections will be specified by the Government.

3.3. Controls

There shall be no operating controls on the PS-8.

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ATTACHMENT A

DELIVERABLE ITEMS

Item 1	Power Supply, PS-8 (prototype) Two models shall be delivered for Government inspection of design and construction.	2 each
Item 2	Power Supply, PS-8 Fabrication of these 50 units shall commence upon approval of Item 1.	50 each
Item 3	Special Cable (Described in 3.2.2.1.) These cables shall be delivered with Item 2.	25 each
Item 4	Instruction and Maintenance Manuals These manuals shall include wiring diagrams, parts list, and instructions for operating the PS-8.	100 each

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