

Synchro, Torque Receiver Transmitter, Type 37TRX4A

FSC 5990

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This specification is approved for use by all Departments and Agencies of the Department of Defense. The requirements for acquiring the Synchros described herein shall consist of this specification and the latest issue of MIL-S-20708.

TABLE I. Requirements.

| Requirement                                    | Value     | Unit                       | Tolerance |
|--|-----------|----------------------------|-----------|
| Frequency                                      | 400       | Hz                         | ±1%       |
| Primary Voltage                                | 115       | volts                      | ±1%       |
| Primary Current                                | 1885      | milliamps                  | maximum   |
| Primary Power                                  | 20        | watts                      | maximum   |
| Impedance:                                     |           |                            |           |
| Z <sub>ss</sub>                                | 3.0-4.0   | ohms                       | min.-max. |
| Impedance Angle:                               |           |                            |           |
| Z <sub>ss</sub>                                | 66.0-70.0 | degrees                    | min.-max. |
| Transformation Ratio                           | 0.783     | ---                        | ±2%       |
| Phase Shift (Lead)                             | 1.0       | degrees                    | maximum   |
| Electrical Error                               | 8.0       | minutes                    | min.-max. |
| Receiver Error                                 | 36        | minutes                    | maximum   |
| Null Voltage:                                  |           |                            |           |
| Total  | 170       | millivolts                 | maximum   |
| Fundamental                                    | 35        | millivolts                 | maximum   |
| Synchronizing Time:                            |           |                            |           |
| 30° ±2°  | 1.0       | seconds                    | maximum   |
| Synchronizing Time:                            |           |                            |           |
| 177° ±2°                                       | 2.0       | seconds                    | maximum   |
| Torque Gradient                                | 0.9       | ounce-inches<br>per degree | minimum   |
| Radial Play                                    | 0.0008    | inches                     | maximum   |
| End Play                                       | 0.0030    | inches                     | ±0.0020   |
| Temperature Rise                               | 60        | degrees (C)                | maximum   |
| Variation of Voltage<br>(+10%) and Freq. (-5%) | 32.5      | watts                      | maximum   |