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Subject*

2 Nov 1948

**Colonel Klepinger - Army Field Forces
Mr. Brann
Military Characteristics for Cryptographic Equipment
for Staff Communications**

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Colonel Klepinger had received a copy of a letter addressed to the Director of Intelligence, concerning these Military Characteristics Army Field Forces wish to modify these Military Characteristics to a considerable extent They did not concur or nonconcur because of their exceptions

36.00

WILLIAM BRANN, Chief

Technical Staff, Security Divisi

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*Fl 2*Compo: .e List of Various Military Cha. teristics
for Cryptologic Devices

- 1 / ~~(1)~~ Manifold transmission channels to accommodate simultaneous facsimile, voice, and auto-keyed signals
- 1 / ~~(2)~~ Provide a continuously enciphered signal
- 1 / (3) Possess a specified degree of security
- 1 / (4) Obviate need for paraphrasing and stereotyping
- 1 / (5) Obviate need for message indicator systems and burying of address and signatures
- 2 (6) Provide automatic synchronism between stations regardless of transmission means
- 2 (7) In the form of fixed plant terminal equipment
- 2 (8) Will not reduce the efficiency of any transmission system with which used
- (9) Require no special handling or preparation of text to be transmitted
- 3 (10) a Speed consistent with transmission means with which employed
b Higher speed than previous devices for same purpose
c Operating speed of _____ WPM
(1) Automatic (2) Semi-automatic (3) Manual
- 3 (11) Operate from
a 115/230 v 50/60 cys AC
b 115 v DC
c 24 v DC
d standard aircraft power
e battery
- 1 (12) Handle messages of all classifications
- 3 (13) Complete change of key and check within _____ minutes
- (14) Provide page copy
- (15) Provide printed tape copy
- (16) Capable of operating on-line and off-line
- 3 (17) Provide direct encryption of numerals
- (18) Simple in construction and operation, thereby requiring minimum of training
- 3 (19) Operate with
a Normal teletypewriter equipment
b Lightweight field teletypewriter

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- (20) Communicable with
 - a Equivalent ground force equipment
 - b " air force equipment
 - c _____
 - (21) Operable over
 - a Standard types of wire and radio signal communication equipment
 - b Aircraft liaison radio systems
 - (22) Messages can be automatically deciphered upon receipt, with plain text being printed at both transmitting and receiving terminals
 - (23) Simple indicator system for use with each message
 - (24) Keyboard operated
 - (25) Capture by enemy will not adversely affect subsequent transmissions
 - (26) Constant change of indicators not required
 - (27) Manual operations held to minimum
 - (28) Suitable for tandem operation to furnish "break-back" check copy
 - (29) Capable of continuous operation over extended periods
 - (30) In case of equipment failure, transmission may be continued by CW
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- (31) Accept clear speech and reproduce same undistorted
 - (32) Signal not unduly affected by interference and atmospherics
 - (33) Key variable produced without use of tool
 - (34) Give clear warning when transmitting in the clear
 - (35) Means provided for destruction of specific key and component parts
 - (36) Operate with standard trans radio sets and wire telephone equipment having trans band width of 3000 cycles per second without modification of either
 - (37) Provide for multi-net operation
 - (38) Multi-subscriber operation off one terminal
 - (39) No loss in transmission range in the circuit being used
 - (40) Not require close control of ambient temperature
 - (41) Can be installed and operated in any shelter suitable for other comparable communications equipment
 - (42) Not require more skill to maintain and operate than standard radio equipment

- (43) Integral part of aircraft command radio equipment
- (44) Operate from standard microphone
- (45) Not require constant control of synchronization
- (46) Usable for point-to-point low echelon voice traffic
- (47) No lag between time of reception and time of transmission
- (48) Transmission of a pictorial picture which requires no longer than transmission in the clear
- (49) Will produce black and white or halftone copy
- (50) Use of photographic negatives as receiving element as well as graphite-backed paper
- (51) Will handle picture of specified size
- (52) Provide for multiple reception at stations capable of phrasing with the transmitting equipment
- (53) Exact reproduction of original material
- (54) Cryptographic element simple enough to be handled by code-room personnel
- (55) Transmit over normal voice circuits in liaison set
- (56) Operate as ancillary equipment