CIRCUIT AND DEVICE DESCRIPTION

2.1033 ( c ) (10 )

(10) Oscillator and other Frequency Stabilizing Circuit Descriptions:

The frequency reference is a self-contained quartz crystal oscillator (TCXO) module, operating 19.2MHz.

The TCXO is compensated by internal temperature compensating circuit providing 1.5ppm stability from –30°C to +60°C.

(11) Circuit or devices employed for suppression of spurious radiation:

a. The radio has metal rear cover and internal plastic molded case with shields to reduce radiation.

b. The reverse side of front assembly is metallized to suppress radiation.

c. Extensive use of chip bypass capacitors in each module to reduce radiation from interconnecting leads.

d. The radio has Low pass filters to reduce harmonics at RF Power Amplifier input and VCO output.

e. During acquisition of the synthesizer phase lock loop, the transmitter output is inhibited by the removal of DC voltage to the gain control stage of the RF power chain and by that DC power source is not applied to pre-amplifier and modulator.

(11) cont. Circuit or Devices employed for limiting modulation:

a. Reference is made to the schematic diagram MD00-TC-0081 in Exhibit 4.

b. Instantaneous audio limiting is accomplished Mixed Digital-Analog IC (PATTI : U500). The PATTI provides both limiting and Post-Limiting filtering. The PATTI runs from a regulated supply voltage, which prevents deviation changes vs. changes in radio power supply voltage. Following the Limiter, an audio signal is provided though Post-Limiting filtering to the Transmit CODEC and is converted to PCM signal. PCM signal is sent to DSP. Any optional tone modulation such as CTCSS modulation is added in DSP (U600).

(12)

Since there are no detail data or information about the core of DSP, GOYO cannot describe this section.

# SECTION 3

## OCCUPIED BANDWIDTH

(FOR 25 kHz CHANNELIZATION)

Method of Measurement Per 2.1049 Data on Occupied Bandwidth is presented in the form of a spectrum analyzer plot which illustrates the transmitter sidebands. A plot is taken of the carrier sideband modulated with a 2500 Hz tone at a level 16 dB greater than that required to produce 50 percent modulation. (The spectrum analyzer grid indicates the reference level of the carrier unmodulated in all exhibits.)

SECTION 3 Page 9-12
Telephony

Bn = 2M + 2DK where

M = 3000 Hz
D = 4000 Hz
K= 1(assumed)

Bn = 14000

Therefore, Emission Designator = 14K0F3E

SECTION 3 Page 13,14
Data, Digital Voice

Bn = 2(B/2) + 2DK where

B=9600Hz
D = 3000 Hz
K=1(assumed)

Bn=15600

Therefore, Emission Designators are,

15K6F1D

15K6F1E

# SECTION 3

## OCCUPIED BANDWIDTH

(FOR NPSPAC CHANNELIZATION)

Method of Measurement Per 2.1049 Data on Occupied Bandwidth is presented in the form of a spectrum analyzer plot which illustrates the transmitter sidebands. A plot is taken of the carrier sideband modulated with a 2500 Hz tone at a level 16 dB greater than that required to produce 50 percent modulation. (The spectrum analyzer grid indicates the reference level of the carrier unmodulated in all exhibits.)

Section 3, Page 20-23 — Bn = 2M+2DK where — M = 3000 Hz
Voice — D = 3500 Hz
K = 1 (assumed)

Bn = 13000 Hz

Therefore, Emission Designator = 13K0F3E

Section 3, Page 24,25 — Bn = 2(B/2) + 2DK where — B = 9600bps
Data — D = 2600 bps
K=1 ( assumed

Bn= 14800Hz

Therefore, Emission Designator=14K8F1D, 14K8F1E