Exhibit 4

SECTION 2.1033(c) (6)
Function of each electron tube or semiconductor or other active circuit device.

RESPONSE: The descriptions are included with the documents for which confidential status has been requested.

Individual Channel Linear Amplifier Active Device Descriptions

Please see :
Exhibit 4a 16-Watt Individual Channel Linear Amplifier

(LUCENT TECHNOLOGIES CONFIDENTIAL PROPRIETARY INFORMATION)
(MPD TECHNOLOGIES CONFIDENTIAL PROPRIETARY INFORMATION)

APPENDIX 1

DETAILED CIRCUIT DESCRIPTION

INTRODUCTION

Refer to the functional block diagrams and schematics of the Power Amplifier shown in Appendix 2.

The amplifier unit is powered by an external +28VDC power supply. It accepts an 11 dBm RF input signal in the 1.93 – 1.99 GHz frequency range and provides a 42 dBm (16W) output. The unit consists of an RF amplifier chain (AT1, Q1-Q8, HY2-HY7), and control board assembly (A1).The RF section contains 2 integrated circuit voltage regulators (U1 and U2). The control board also includes 2 DC voltage regulators. The control board regulates the collector bias voltage to the RF transistors and monitors the operating current and temperature. In the event of an over-current or over-temperature condition, the control board provides an alarm indication at connector J4 pin 10.

RF SECTION

RF input is applied through input connector J1 onto a 50Ω microstrip line to input attenuator AT1. The first two amplification stages, Q1 and Q2, provide 12 dB and 10.5 dB of gain respectively. The output of the Q2 stage is passed through power splitter HY2 which provides equal amplitude/quadrature phase inputs to Q3 and Q4 for further amplification. The Q3/Q4 stages are identical, and each provide 7 dB of gain. The Q3/Q4 outputs are themselves split by HY3 and HY4 and drive four parallel RF output devices, Q5 through Q8, each providing 7 dB of gain. Each RF output device operates at +22VDC and 0.75A. The RF output power of these devices is combined with HY5, HY6, and HY7, and passed through circulator HY1 and RF output connector J2. The initial amplification stage, Q1, operates in Class A mode. All subsequent amplification stages operate Class AB mode.

U1 and U2 are integrated circuit voltage regulators that provide +5VDC for the base bias circuits of each of the RF transistors. Active bias of the RF devices is controlled by transistors Q9 through Q16.

CONTROL BOARD

The control board consists of voltage regulators and current and temperature monitoring circuits which control the RF amplifier supply voltage. A fault alarm output voltage is provided in the event of excessive operating current or temperature. Regulated +22VDC is provided to the RF transistors by a discrete linear voltage regulator circuit comprising

MOSFET series pass transistors Q1 – Q3 and error amplifier U3A, which monitors the regulated output voltage and adjusts drive to the pass transistors accordingly. A monolithic regulator, U1, provides +8VDC locally to power circuits on the control board. Operating current is sensed by U1 which generates a proportional output voltage to comparator U3B. Comparator U3C receives temperature information from thermostatic switch S1. The outputs of each of these comparators are diode-OR'd and used to trigger a digital alarm circuit (U4, U5, and U6), and shutdown the RF supply voltage under fault conditions. Transistor Q4 switches the alarm indication voltage.

Exhibit 8

SECTION 2.1033(c) (10)

A description of all circuitry and devices provided for determining transmit frequency.

RESPONSE:
The frequency stabilization of the transmit signal is controlled by the **CBR / AS5CMP-26** which is being co-filed with this submittal. The **AS5CMP-26** supplies the signals to be amplified. The **ICLA / AS5CMP-27** does not contain any frequency conversion or stabilizing circuitry.