Federal Communications Commission
EQUIPMENT AUTHORIZATION BRANCH
7435 Oakland Mills Road
Columbia, MD 21046

Re: Frequency determining circuitry
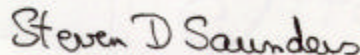   FCCID: PJ6-5075TX-F-15

To Whom It May Concern:

AeroComm, Inc. designed its own oscillator to determine the output frequency in our transmitter FCCID: PJ6-5075-F-15.

The architecture of the design of our transmitter does not allow the end user to change the pre-assigned frequency in the field. The unit is a crystal controlled Colpitts oscillator, (crystal specifications attached), and it will only be supplied to the end users as factory tuned.

The crystals that are supplied by the manufacturer, Bomar, are model
BC1AAF332-__._____ where the last 8 blanks are the frequency cut of the crystal. Using the multiplying factor of 36 will produce the output frequency of the transmitter.
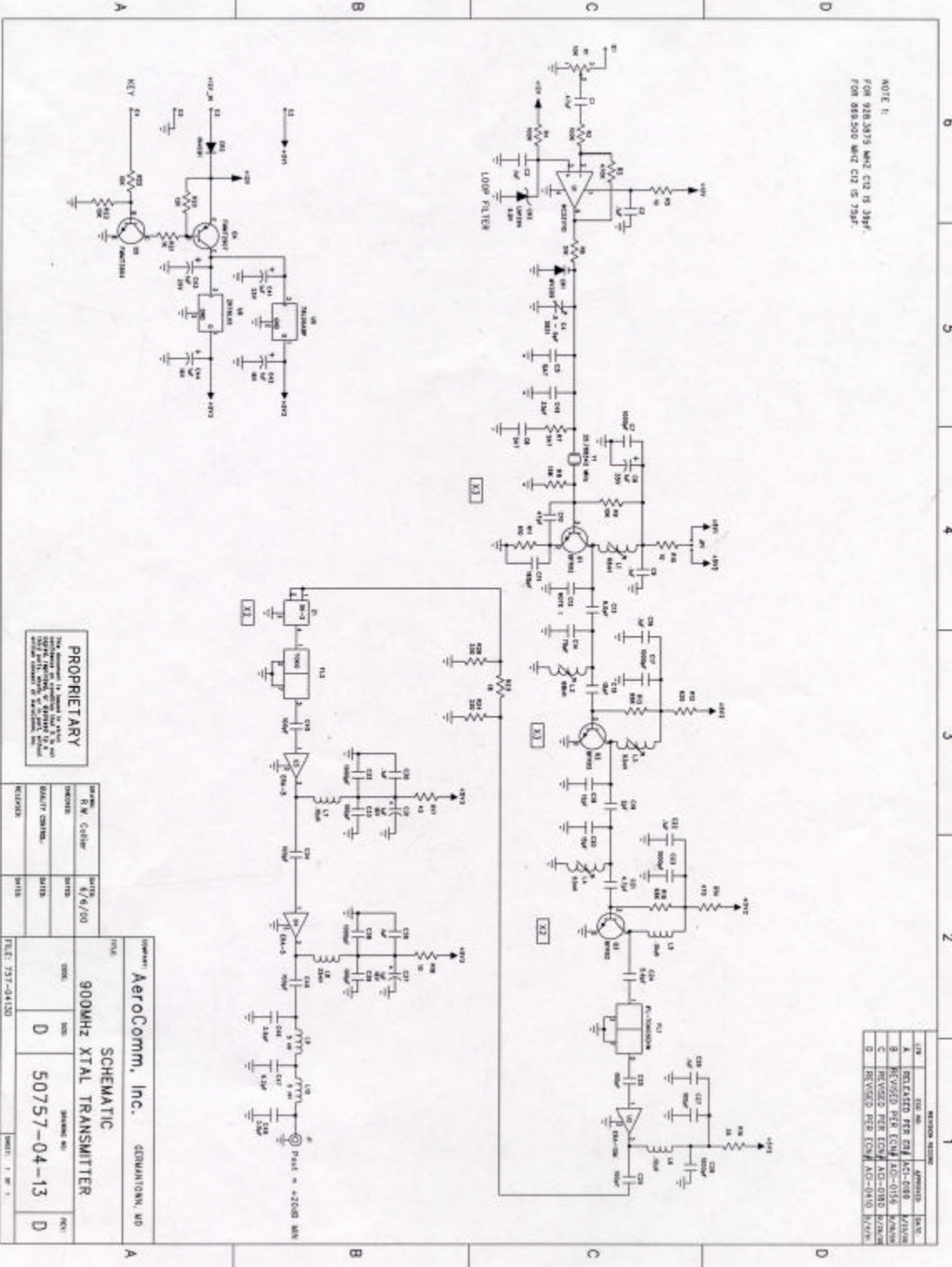
The oscillator circuit is Q1 and is shown in the attached schematic 50757-04-14. The oscillator is controlled by crystal Y1. Y1 is a fundamental mode crystal and the cut is an At cut. This cut has a frequency vs. temperature profile, which is cubic. The oscillator feedback capacitors are C10 and C11: these capacitors have a negative temperature coefficient of N250. Oscillator frequency adjustment is made via the trimmer capacitor C4. Additional temperature compensation is provided by R7 and C5.

Sincerely,

Steven D Saunders

Steven Saunders
Engineering
AeroComm, Inc.

NOTE 1:
FOR 928.3875 MHZ C12 IS 38pF.
FOR 869.500 MHZ C12 IS 75pF.

LOOP FILTER

KEY

PROPRIETARY

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COMPANY:	AeroComm, Inc.	GERMANTOWN, MD
TITLE:	900MHz XTAL TRANSMITTER SCHEMATIC	
DRAWN BY: R.W. Cellar	DATE: 6/6/00	
CHECKED:	DATED:	
QUALITY CONTROL:	DATED:	
RELEASED:	DATED:	
SIZE: D	CODE:	DRAWING NO: 50757-04-13	REV: D
FILE: 7317-04130		SHEET: 1 OF 1

TX Crystal Specifications:

RF Frequency (Fo):   928.00000 MHz

Crystal Use: TX

XTAL Frequency: 25.77777778 MHz

Formula: Fo/36

Overtone: Fundamental

Circuit Condition: 24 pF

Holder Style: HC45/U2

Calibration Temp: 25°C

Freq. Tolerance @Calibration: ± 5 ppm

Operating Temp. Range: -30°C to +60°C

Freq. Tolerance Over Operating Temp. Range: ± 10 ppm

Drive Level: 0.5 mW

Equivalent Series Resistance: 20 Ω maximum

Parallel Capacitance;   5.20 to 6.20 pF typical