

EXHIBIT 2

Circuit Description.

CFS8DL5883

The 5883 is constructed on a single PCB.

The PCB contains the RF transmitter and receiver circuitry as well as control circuitry, to coordinate transmission and reception of messages with the alarm system.

The transmitter is a SAW resonator Colpitts oscillator, Q14, Y6 etc. The transmitter is on-off keyed (AM) modulated by a control signal from the microcontroller U5 and U9 which turns PA Q18 on or off via Q11/Q12, thus modulating the output signal. The transmitter power output can also be set at two different power levels corresponding to the higher-power "control message" or the lower-power "data message" this is done by Q13, under the control of the U9 microcontroller. Note that microcontroller U9 also ensures that "data" messages are not transmitted more often than permitted by part 15.231.e. The RF output signal is connected to its two antenna via the output tuning and matching circuit L13,C67,R151,C64,C65

The receiver is a superhet with a single intermediate frequency at 10.7MHz. Q3 etc. is the low noise amplifier which is connected to the PCB mounted antennas. Diodes CR7/CR8 under the control of the microcontroller U5 are periodically switched to provide system antenna diversity. The IC U1 includes a balanced mixer which converts the incoming signal down from 345MHz to 10.7MHz. This IC also includes the required IF gain and detected output. FL1 is a ceramic IF filter. IC U2 etc., perform video filtering and processing and provides a data signal. The local oscillator (Y3/Q5) is a 59.28333 Mhz Xtal oscillator which outputs 355.7MHz to the mixer via multiplier L6/C24/C25.