

Exhibit 12. Transmitter Description -----47 CFR. 2.983-(d)-1,2,3,4,5

12.1. Transmitter Technical Characteristics -- Pursuant 47 CFR 2.983 (d)

The transmitter is a Single Conversion High Side Injected transmitter which employs Time Division Multiplexed transmission on a voice or data channel, but the radio will not transmit until it has locked onto a base station broadcast control channel. The radio receives permission from the control channel to transmit by requesting permission via the control channel. If the transmitter is granted access to transmit in voice or data mode, it will transmit during a single 15 ms time slot in a 90 ms frame during 6:1 compression mode, or two 15 ms time slots in a 90 ms frame during 3:1 compression mode. If the transmitter is granted access to transmit in data mode, it will transmit during a 15ms time slot for each slot granted the radio. In data mode, the transmitter is not restricted by a 90 ms frame. The transmitter can be granted access to transmit in back to back slots when slot availability allows or in any random pattern of available slots (not necessarily repetitive) where slot availability allows. Software protocol limits the maximum available back to back slots granted to the transmitter in data mode to 94 out of 96 slots.

A. RF Power Output:

Transmitter output power may be automatically attenuated by up to 24 dB below the maximum transmitter output power setting upon receipt of a command signal from the base station to prevent base station receiver overload. The user has no control over this setting.

1:1 MODE	3:1 MODE	6:1 MODE	COMMENTS
0.0024 Watts to 0.6 Watts Pulse Mean Power (variable)	0.0024 Watts to 0.6 Watts Pulse Mean Power (variable)	0.0024 Watts to 0.6 Watts Pulse Mean Power (variable)	During a 15 ms Transmit Slot.
2.4 milliWatts to 0.6 Watts Mean	0.8 milliWatts to 0.2 Watts Mean	0.4 milliWatts to 0.1 Watts Mean	During an entire 90 ms frame.

- B. Frequency Range 806-821 MHz
- C. Frequency Stability 1.9 PPM *
- D. Emission Designator 20K0D7W
- E. Spurious Emissions < -15 dBm nominal
- F. DC Voltage and Current into the final RF amplifier stage/stages 3.6 Volts DC
250 mA mean current at 6:1 Mode
500 mA mean current at 3:1 Mode
1500mA mean current at 1:1 Mode

* See exhibit 6.6

12.2. Transmitter Application

The radio is characterized by the following features, options, and accessories.

A. Power Supply Available:

Two types of rechargeable secondary batteries: Li Ion, and NiMH..
The three available chargers are the Vehicular Battery Charger, the Desk Top Charger, and the Switch Mode Power supply.

B. Antenna Available

Retractable antenna, 1/4 wave (extended), 1/4 wave helical (retracted)

C. Microphone Available

1. Internal

2. Audio Connector

D. Other Accessories Available

1. RS232 Data Cable
2. Palm Pilot Cable with Connector
3. Generic PDA adapter
4. Desktop Stand with Data and Charging Capability
5. Enhanced "Y" Cable
6. MAC Interface Cable
7. IDEN Organizer
8. Desk Top Charger
9. Switch Mode Power Supply
10. Audio Connector
11. Soft Install Car Kit
12. Vehicular Battery Charger
13. Lightweight Headset
14. Adjustable Headset
15. Over the Earpiece with Microphone
16. Earpiece with Microphone

E. Maximum Transmit Channel Capability

All channels in the 806-821 MHz band that are a multiple of 12.5 kHz. This includes EA based SMR service channels.

F. Housing

The transmitter will be housed in the housing shown in the accompanying photographs.

G. Other Options

1. Soft Install Car Kit vehicular adapter
2. Vehicular Battery Charger

12.3. Transmitter Programmability

The subject transmitter complies with 47 CFR 90.203 in that it is not front panel programmable by the operator. The transmitter internal control computer automatically selects one of the preprogrammed frequency channels in coordination with the trunking systems control channel. The transceivers authorized transmit frequency list is preprogrammed at the factory and can not be changed by the operator.

The programming of available transmitter frequency channels by an authorized service person is accomplished by the use of a personal computer using MS-DOS, a Level Shifter card, and licensed "Radio Service Software" (RSS).

No operation, receive or transmit is permitted during programming of the portable radio. The transceiver can transmit only after it's receiver has acquired and locked onto the base station. The maximum frequency error of the transceiver is 1.9 PPM based on the base station meeting the FCC requirement of 1.5 PPM. This locking ensures an accurate transmission frequency. For further description please refer to exhibit 6.6.