

INTRODUCTION & COVER LETTER

Because the device described in FCCID: QDQ-100 uses an already approved FRS radio core in a new application, more explanation is warranted. The original FRS core that will be used in this device has FCC ID: PHC-1428. The grant was given on 6/12/2001.

This new device is a special purpose transceiver that is to be used by firefighters and other rescue services for short-range communications during fires, or any usage requiring a breathing air mask. It uses a side-of-head mounted triangular housing. This housing allows the microphone to be placed on the facemask's voice diaphragm, and repositions the speaker over the ear. The extra circuitry made/assembled by the manufacturer (Safety Tech Industries) is completely contained in the housing. It will be marketed as the model SAV-100 "TeamTalk™".

Simple "push-to-talk", "on/off" and volume controls are done by three push buttons. The interface between the buttons and the PHC-1428 FRS-radio core is achieved by extra circuitry. The device manufacturer will supply the description of this (see enclosed), and all other circuitry in the exhibits.

Because of the availability of 9-volt alkaline batteries to fire personnel, a separate voltage regulator is used to lower the 9-volt level to a 5-volt level to operate the PHC-1428. The transceiver emits a distinctive double beep when battery voltage drops below 7 volts. Once the beeping begins, there are 30 minutes of operation time available. The transceiver complies with the "5%Transmit, 5%Receive, 90% standby" standard for portable transceivers. There is no provision for the recharging of batteries.

A 47-ohm resistor at the RF output of the radio board and a printed circuit antenna reduce the output power from the PHC-1428. Because of this new antenna system, effective radiated power and spurious radiated emission measurements are included in the exhibits. The effective power level is reduced from the 300mW level described in the PHC-1428 level. Only short-range communications are needed for this device and the higher power to be reduced for this application.

For operational simplicity, only two out of the 14 channels present in the PHC-1428 are used. One assigned channel is for normal usage. The second channel is used for special needs, such as mutual aid from other cities or departments. This “alternate” channel is selected by the simultaneous pushing on both up & down volume buttons for 3 seconds. The unit returns to the regular channel upon either repeating the dual buttons, or a powering down (off) of the unit. The selection of what channel is to be “normal” is up to each customer, however, it is programmed to that channel by Safety Tech Industries.

The upper pushbutton is used to increase the speaker volume in eight distinct steps. The lower pushbutton lowers the speaker volume, but does not allow the volume to go totally “off”.

The manufacturer affects no RF generating subsystem of the PHC-1428 core. The PHC-1428 core is bought in quantity and no on-board functions are changed. For this reason, the frequency stability due to temperature and battery voltage variations, bandwidth and modulation tests are not repeated. The original unit is used as was designed. Safety Tech Industries merely has employed a different method to control the original pushbuttons on the radio core’s PCB board.

Thank you, for your time and effort in this project. If there is anything else you need beyond the exhibits submitted, please contact via email or by the following:

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