

846-490

MicroCom Technologies, Inc.
83 Hopkins Road, Ellington, CT 06029
(860) 875-4022 FAX (860) 875-2318

December 31, 1996

NIOSH Docket Office
Robert A. Taft Laboratories
M/S C34
4676 Columbia Parkway
Cincinnati, Ohio 45226

Re: NIOSH Certification requirements (42 CFR Part 84)

Dear Sirs:

NIOSH held hearings regarding changes to CR 42 CFR Part 84 during June, 1996. We wish to comment specifically on Issue 4 raised on page 24743 of the Federal Register dated May 7, 1996. Specifically, we strongly encourage NIOSH to modify existing standards to allow for testing and certification of replacement parts and/or accessory equipment to SCBA apparatus NOT manufactured by specific SCBA manufacturers.

MicroCom was founded in 1988 to develop improved communication systems for firefighters by a former engineer and current firefighter. Since then we have developed and patented improved mask-mounted wireless communication systems with electronic accountability to locate firefighters. We have tried for several years to have several of the SCBA manufacturers incorporate this system into their SCBA apparatus, only to have them delay time and again any decision regarding these devices. After approaching them and having them sign non-disclosure agreements, we have been told on subsequent meetings that they "are already working on a similar system." To date no manufacturer has introduced a completely wireless mask-mounted communication system. This delay has resulted in many needless deaths of firefighters due to their inability to effectively communicate with other firefighters when trapped inside buildings or for command personnel to effectively warn firefighters to evacuate buildings in danger of collapse. Had MicroCom been permitted to submit this device directly to NIOSH, it would have been available on the market. Also, we could have marketed these systems directly to firefighters at a much lower cost than through SCBA manufacturers and their distributors who add their own profit margin to our prices.

To answer the specific questions raised in the notice:

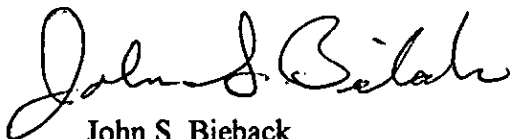
1. Should NIOSH allow replacement parts for respirators by manufacturers other than the original manufacturer of the respirator? **We say yes for the reasons mentioned above.**
2. How should the effectiveness of replacement parts be assured? **The new manufacturer must submit the replacement (or accessory) part in conjunction with the specific respirator unit to which the device is fitted. For example, if the replacement (or accessory) part is to be worn with a Scott or MSA respirator, the manufacturer must submit the required number of complete systems for testing with the new device attached.**

Communications Technology
for Firefighter Safety

rec'd
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3. Would NIOSH need to adopt or develop component-specific certification requirements to allow alternative suppliers for replacement parts? **No. All manufacturers must meet the same requirements for safety as existing respirator manufacturers.**
4. Should NIOSH consider certifying respirator components in addition to, or instead of, complete respirators? **For those components that directly affect the respiration function of the system, the device should be tested as a component of an entire system. For accessory components, such as PASS (personal alert safety system) or communications components, the component itself should be allowed to be tested and certified that there is no negative impact on firefighter safety.**
5. Do other certifying agencies or standards organizations allow suppliers other than the original manufacturer to provide replacement parts for certified units? **Yes. Many small manufacturers of aerospace components here in Connecticut (suppliers to Pratt & Whitney) meet FAA and other agency requirements to directly supply airlines and airframe manufacturers with replacement parts. This is also true in the medical technology industry.**
6. If suppliers other than the original manufacturer were permitted to provide replacement parts, how should NIOSH monitor these alternative suppliers? **NIOSH should use the system currently used to monitor respirator manufacturers with manufacturers producing replacement parts or accessory components.**
7. If suppliers other than the original manufacturer were permitted to provide replacement parts, how should NIOSH monitor those parts? **NIOSH should use the system currently used to monitor parts manufactured by respirator manufacturers with replacement parts or accessory components produced by other manufacturers.**
8. Would NIOSH need to adopt design specifications to ensure that interchangeability of parts is safe? **No. NIOSH does not need to develop separate design specifications as any deficiencies impacting safety will be identified during testing procedures.**

We hope that these comments are useful to NIOSH in developing a more open system for adopting technology into the SCBA respirator market, to enhance firefighter safety, to foster increased competition in the market, and to lower costs to firefighters so that more of them could afford the latest safety equipment. We have included diagrams of our MicroCom Mask-II device mounted on a Scott face mask to help you visualize this accessory component.



John S. Bieback
Chairman

Sincerely,

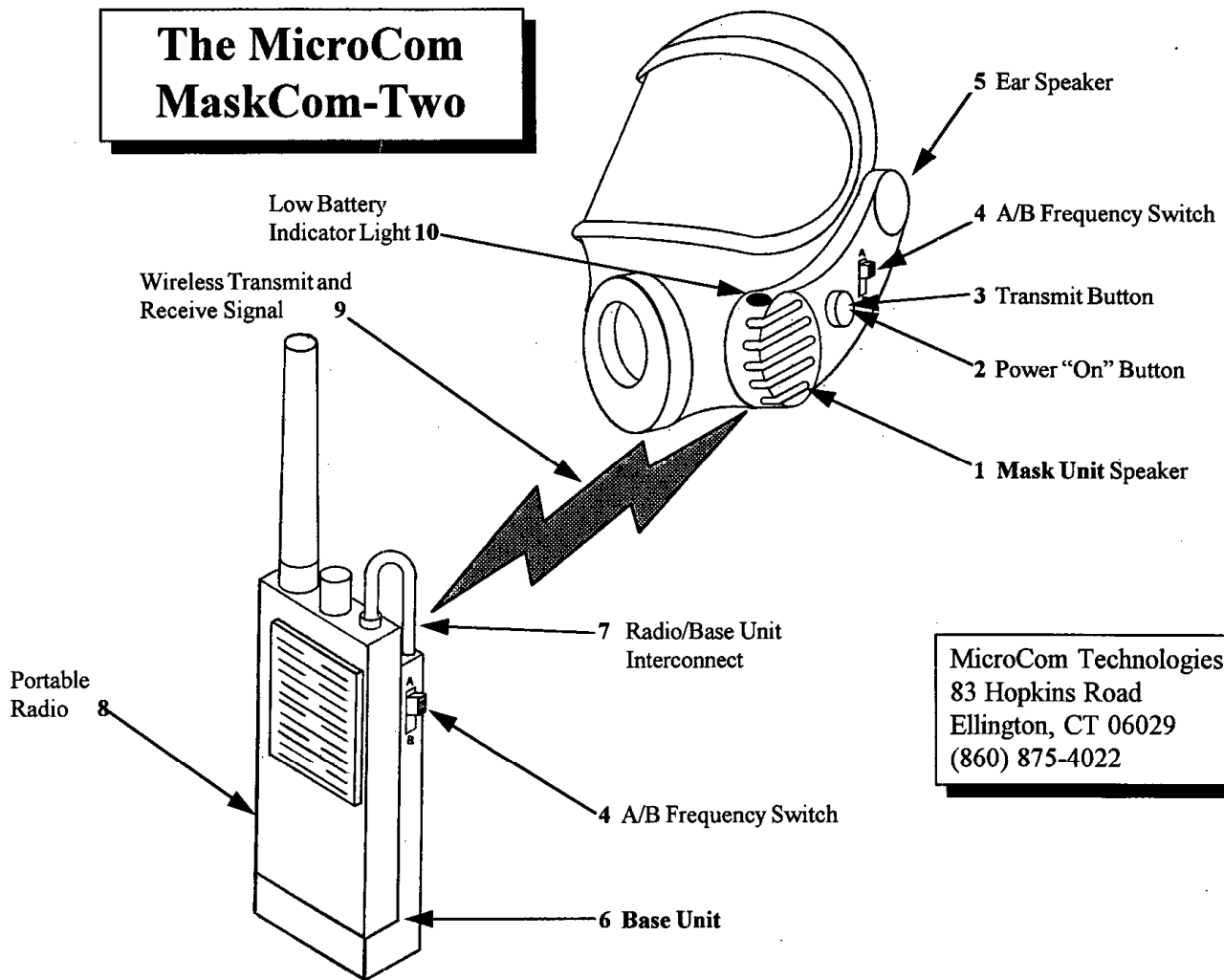


Peter J. LaPlaca
President

enclosures

cc: Senators Joseph Lieberman and Christopher Dodd; Representatives Barbara Kennelly, Sam Gejdenson, Nancy Johnson, Christopher Shays, and Rosa DeLaura

The MicroCom MaskCom-Two

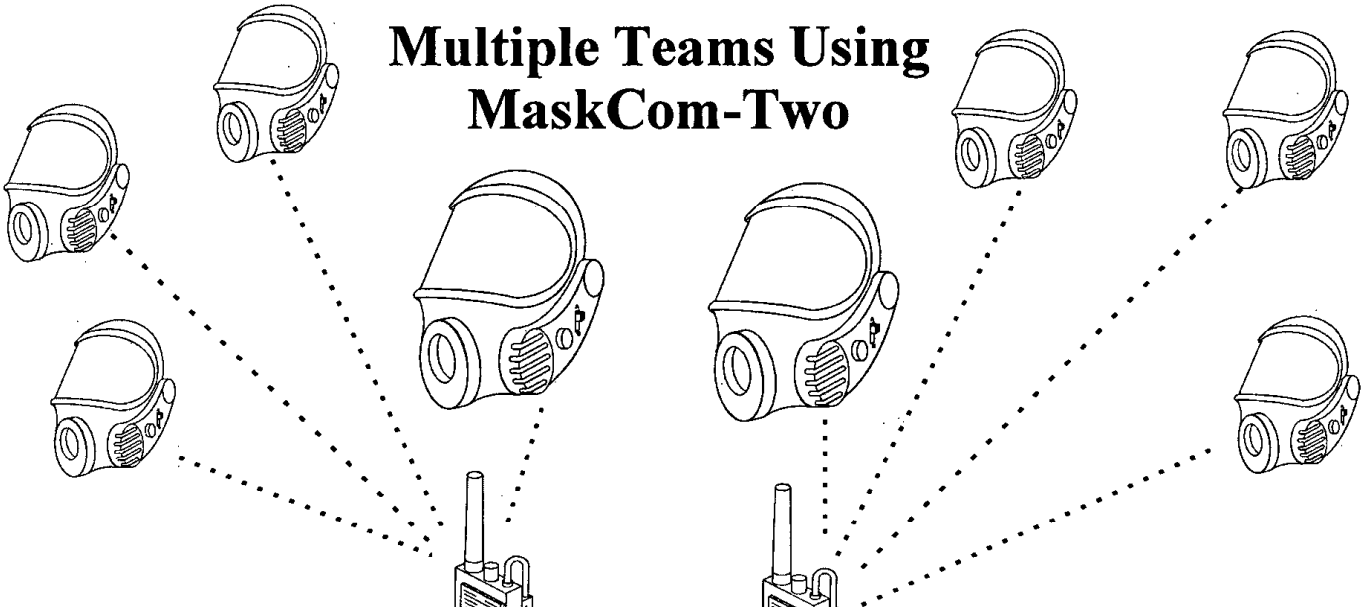


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Features of the MicroCom MaskCom-Two Communications System

- 1 **MASK UNIT** The mask unit speaker, microphone and electronic voice amplifier, powered by a 9V battery, provides a clear unmuffled voice communication through the mask to anyone within its audible range. The amplifier incorporates a electronic circuitry (BreathClipper®) that eliminates the amplification of breathing sounds. The mask unit includes a transmitter and receiver with a ear speaker for a wireless radio interface communication.
- 2 **POWER "ON"** The push button switch activates the power "ON". A audible "beep" will be heard to indicate the power has been turned on. The unit will automatically go into "OFF" mode within (1) one minute after the breathing sounds are no longer detected.
- 3 **TRANSMIT BUTTON** This same switch is used as a "Push to Talk" transmit button for radio communications. This push button switch has two functions. It operates as power "ON" switch and as a "Push to Talk" transmit button.
- 4 **A/B SWITCH** The A/B switch is for the selection of either A or B frequency of the base and mask units. The A/B switch is used when two SCBA teams are using different portable radio fireground frequencies and are close by, therefore each team will operate on separate mask unit frequencies in order not to cross link with other MaskCom systems. Both the mask and base units must be in either A or B position.
- 5 **EAR SPEAKER** The ear speaker monitors all communications from the portable radio and other mask units. The speaker is designed to be an integral part of the mask unit housing and positioned close to the ear for optimal reception in a high noise area.
- 6 The **BASE UNIT** is designed to be adaptable with most commonly used radios on the market. The base unit function is to provide the wireless link from the mask unit with the portable radio both in transmit and receive modes. The base unit is powered by a 9 volt battery, however in some cases (depending on the radio manufacture) the power from the radio will energize the base unit.
Note: The intent of the base unit design is to conform with the radio as single unit both in appearance and handling, so the portable radio can still be used for its intended purpose.
- 7 **RADIO/BASE INTERCONNECT** Both the radio and base units are interconnected by a appropriate adapter.
- 8 **PORTABLE RADIO** Any standard, commonly used portable radio presently used by a fire department or industrial facility, regardless of the operating frequency, can be use with the MaskCom-2 system.
- 9 **WIRELESS TRANSMIT & RECEIVE SIGNAL** The wireless transmit and receive signal operates on a separate frequency from the radio system. The effective range of this signal is up to 50 ft.
- 10 **LOW BATTERY INDICATOR** A red LED will illuminate when the battery is running on low power.

Multiple Teams Using MaskCom-Two



Team A

Team B

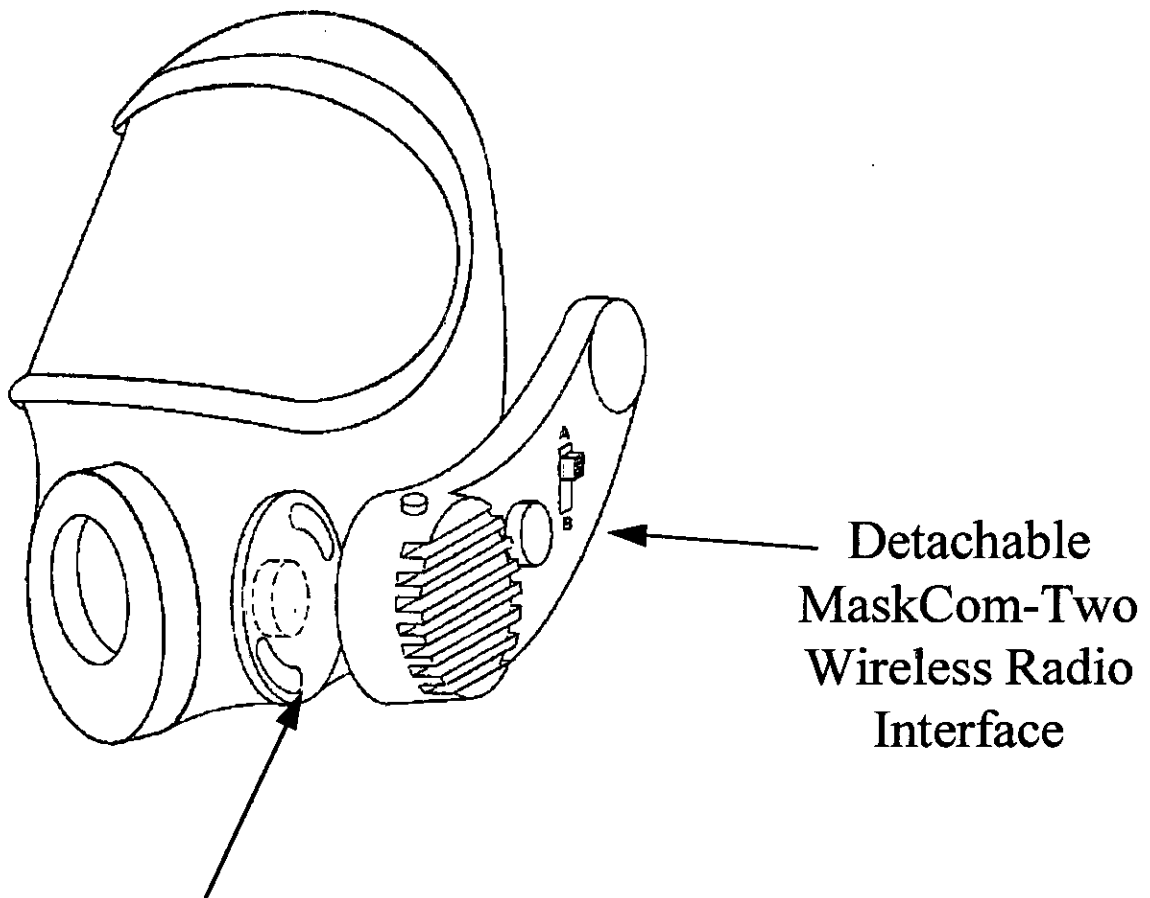
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Frequency 1



Frequency 2

MicroCom Mask Mounted Voice Amplification System



Twist Unlock Base
with Microphone

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