Hearing protection provided by Larkspur and Clansman headphones / headsets

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Receivers, Headgear, Double, SI No.1A

When originally introduced in the mid 1950's there was no specific provision by the Larkspur wireless control harness for protecting the users hearing from loud noise. The receivers headgear double SI No.1A YA/9595 protected the users hearing in so far as it covered the ear and provided a good seal between the rocking armature receiver 5965-99-940-2368 - YA/10432 - E/M No.1 and the ear canal.

Whilst loud noise as a factor in hearing loss had been recognised in industrial settings before the introduction of the Larkspur wireless control harness, widespread acceptance of the need to provide hearing protection only started to gradually occur from the late 1950's. For a comprehensive review of industrial hearing protection the reader is directed to the following publication:

INDUSTRIAL DEAFNESS, A Review of the Information Available to the Ordinary Reasonable and Prudent Employer Prior to 1972. Published by the Wolfson Unit for Noise and Vibration Control of University of Southampton Institute of Sound and Vibration Research.

The first use of headphones with the Larkspur wireless control harness that were introduced to provide hearing protection was with the issue of Amplivox Sonogard earmuffs (Amplivox Type E22) as the Headset Electrical Y1/5965-99-949-9025. The earmuffs were adapted for use as headphones by the addition of rocking armature receivers E/M No.1 and a 671 plug - 10H/18574 - 5935-99-946-6652. Photographic evidence seems to indicate they were issued mainly to the Royal Artillery, notably for use with the Abbot FV433. I have been unable to ascertain the in service date of the Amplivox headphones, but a similar adaptation of the Amplivox Sonogard earmuffs (by Rediffusion to create the Reditune ear-defender) appears to have happened in the early to mid 1970's.

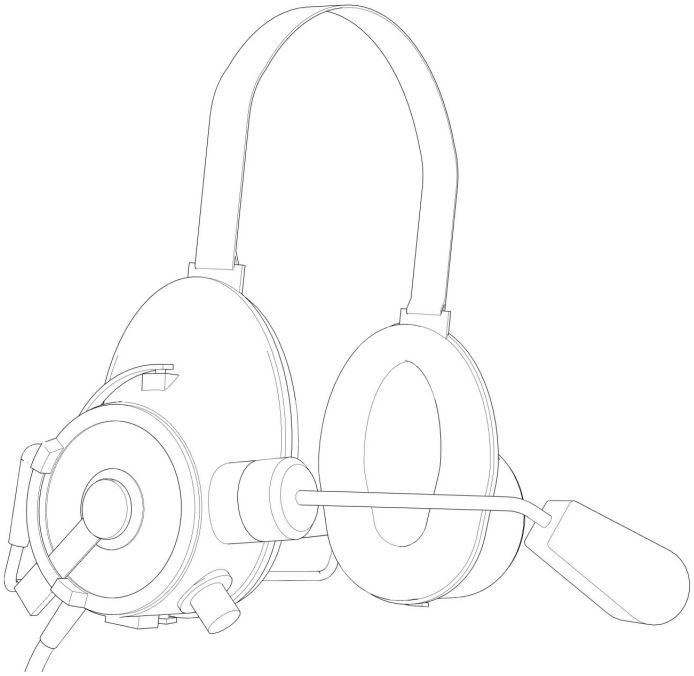
Amplivox Sonogard

The Amplivox Sonogard earmuffs are designed as basic earmuffs, but the slightly later Amplivox Sonovalve uses the 'Amplivox acoustic valve' to vary the protection given and allow speech to be more easily heard without having to remove the earmuffs. This is probably the system referred to in United States patent 3,637,040 of 25th January 1972.

Amplivox Sonovalve

Amplivox Sonovalve valve

The Amplivox headset Sonovalve II and protective helmet Helmgard may be better know to the reader as the Headset, microphone, 'A' Vehicle Staff Users 5965-99-620-5668 and the Helmet headset, electrical, 'A' vehicle crewman's headgear 5965-99-620-3251. Whilst the Amplivox headset Sonovalve II and protective helmet Helmgard are generally associated with the Clansman radio control harness, they can also be considered as very late Larkspur wireless control harness items as they could be used with the Larkspur II wireless control harness.

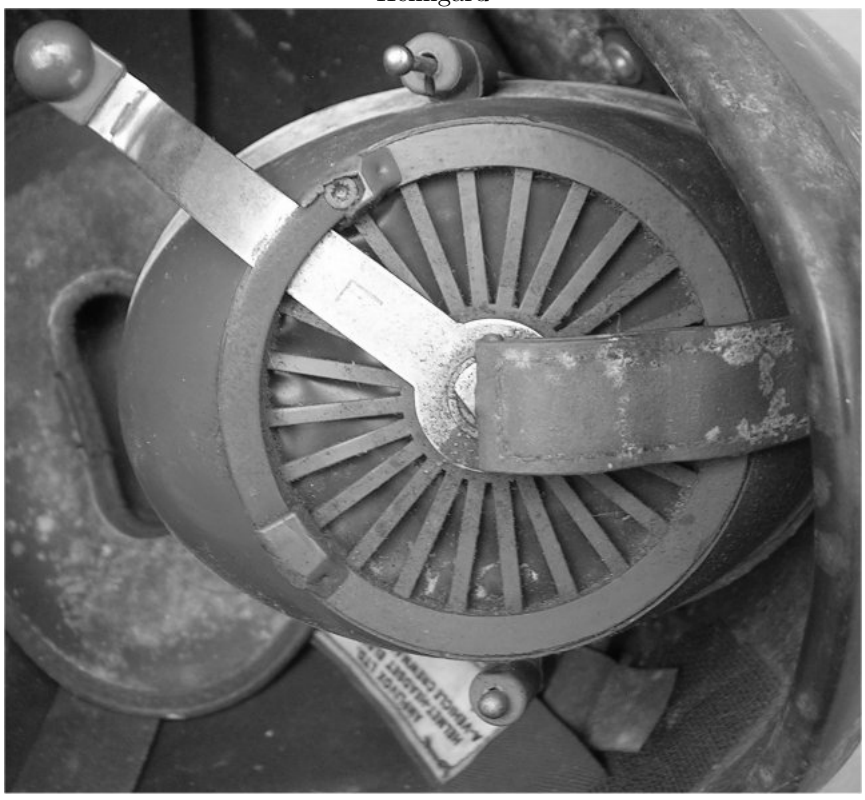


Amplivox Sonovalve II

Amplivox Sonovalve II valve

When originally introduced the Clansman radio control harness used entirely passive methods for protecting the crew from noise. The passive Clansman radio control harness items can be identified from the use of white lettering on a black background to indicate the functions of the various switch positions. A further indicator is the body of the cable assembly, switch electrical 5965-99-620-5667 is coloured black.

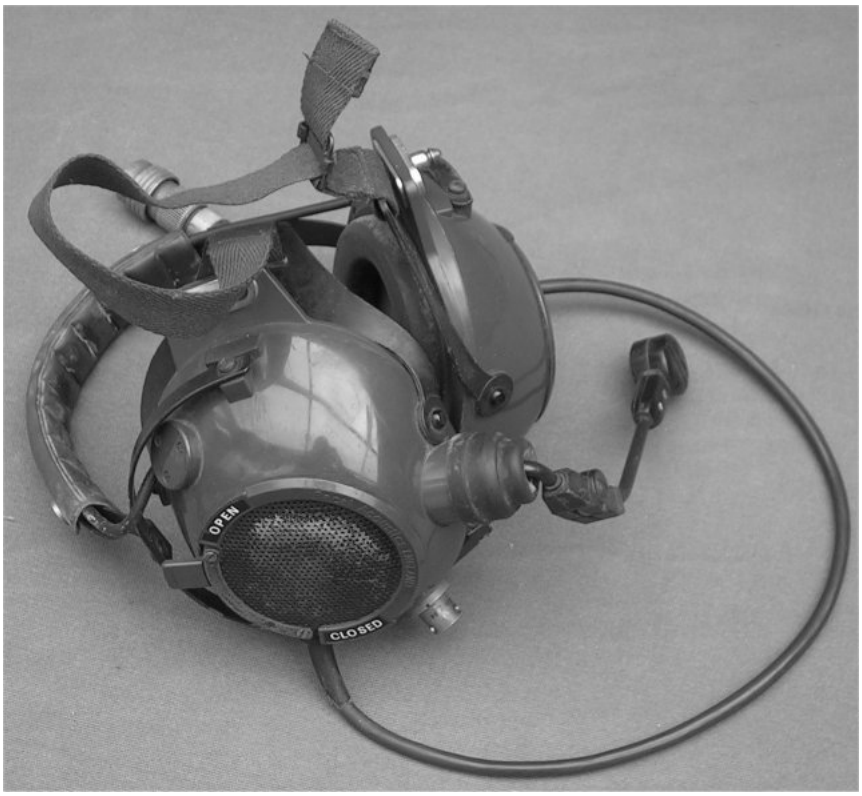
Helmgard



Helmgard valve

At some point the Amplivox Helmgard was supplemented in service with the introduction of the two part Racal Acoustics Limited RA180 Crewgard Headset, issued as the Combat Vehicle Crewman's Helmet. The ballistic helmet was made by National Plastics and the removable headset by Racal Acoustics. The headset uses the same acoustic valve as the Amplivox Helmgard and is, therefore, also a passive item of hearing protection. I have not established an in service date for the Combat Vehicle Crewman's Helmet, but United States patent Des. 264,587 which illustrates an 'ornamental design for a hinged boom arm for a microphone headset, substantially as shown and described.' was assigned to Racal Acoustics Limited, Wembley, England on the 25tn of May 1982 and is the boom arm used on the

headset for the Combat Vehicle Crewman's Helmet.



RA180

RA180 valve

During the service life of the Clansman radio control harness an active method for protecting the crew from noise was introduced. The active Clansman radio control harness items can be identified from the use of black lettering on a yellow background to indicate the functions of the various switch positions. A further indicator is the body of the cable assembly, switch electrical 5965-99-763-7915 is coloured olive green.

Much as when the Larkspur II wireless control harness used a spare pin to provide power to the Commander's personal unit 5820 99 117 4349 and the Crewman's personal unit 5820 99 117 4348 for the TAA300 audio frequency

amplifier, a spare pin was used to provide power to headsets connected to the Clansman radio control harness to power the Active Noise Reduction module.

Clansman radio control harness boxes began being modified in 1992 with modification instructions being issued in May 1992 for the following items:

Interconnecting Box 2 Radio	EMER TELS L807 Mod Inst No.11
Interconnecting Box 3 Radio	EMER TELS L807 Mod Inst No.12
Crew Box 2 Radio	EMER TELS L807 Mod Inst No.13
Commanders Box Fixed	EMER TELS L807 Mod Inst No.14
Crew Box 3 Radio	EMER TELS L807 Mod Inst No.15
Commander's Personal Unit	EMER TELS L807 Mod Inst No.16

The modification instruction for the Driver's Box was not issued until July 1993 (Mod Inst No.17) and the modification instruction for the Radio Lines Box was not issued until September 1995 (Mod Inst No.19).

That the modification instruction for the Driver's Box was issued over a year later the most of the other boxes may seem odd, but it needs to be remembered that not all British Army AFVs use the Driver's Box. The Scorpion and Scimitar, for example, provide the driver with a Crew Box 2 Radio (EMER Comms Insts 040) and it could be that a phased introduction was instituted as No.34 Base Workshop REME could not be expected to modify all Clansman radio control harness boxes at once.

Whilst the RA180 is not mentioned in the modification instructions, mention is made of either 'the Racal ANR headset' or 'the Racal ANR headset. Part No. RA195/1000'. The RA195/1000 is a headset designed to be worn under the British Army Mk.6 infantry helmet.

RA195

Bibliography

United States patent 3,637,040

INDUSTRIAL DEAFNESS, A Review of the Information Available to the Ordinary Reasonable and Prudent Employer Prior to 1972. Published by the Wolfson Unit for Noise and Vibration Control of University of Southampton Institute of Sound and Vibration Research.

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Electrical and Mechanical Engineering Regulations, Telecommunications C740, Clansman Audio Accessories, Technical Handbook, Data Summary, January 1980

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Electrical and Mechanical Engineering Regulations, Telecommunications L807, Clansman Radio Control Harness, Technical Handbook-Modification Instructions, Various dates

Electrical and Mechanical Engineering Regulations, Communications Installations E040, Basic Two Set Clansman Radio Harness Installation in FV101 Scorpion, FV107 Scimitar, Technical Handbook-Data Summary, December 1976

United States patent Des. 264,587

RA180 CREWGARD HEADSET, Racal Acoustics Limited, Publication No. 8033-1

RA195 COMBAT ANR HEADSET, Racal Acoustics Limited, Publication No. 8036-1