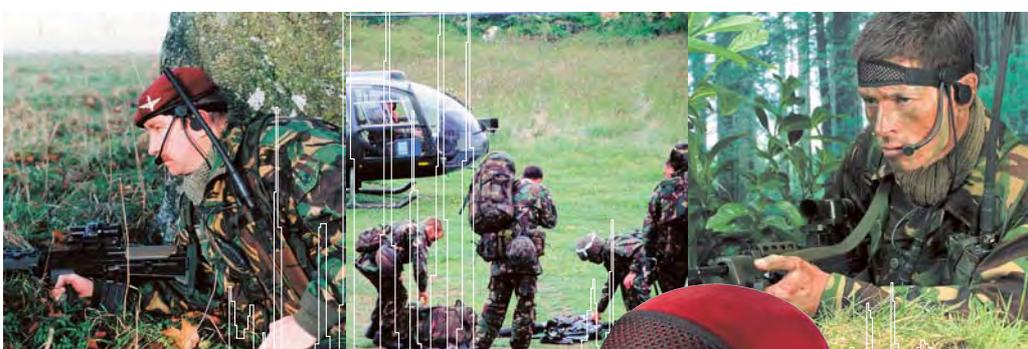


www.swatheadsets.com



MODULAR COBRA

HEADSET SYSTEM (RA3185 SERIES)

- > **Modular system**
- > **Mission configurable**
- > **Lightweight**
- > **Excellent speech quality**
- > **Robust, low profile headset**
- > **Waterproof**
- > **Excellent long term comfort**



Television Equipment Associates Inc.

Phone 310 457- 7401 - Fax 310 457- 0023

RA3185 MODULAR COBRA SYSTEM



Cobra is a rugged, lightweight headset and is fully compatible with most infantry combat helmets and other in-service equipment.



Careful design ensures that the Modular Cobra headset does not interfere with peripheral vision or impede the reception of local sounds.



Modular Cobra is a rugged, lightweight headset system designed to meet the needs of military users in the harshest operating conditions.



Ideally suited to the Infantry role, the lightweight Modular Cobra System provides clear speech quality, with the ability to rapidly change from headset to handset configuration.

PRODUCT DESCRIPTION

Modular Cobra System

The Modular Cobra range is a totally new concept in light-weight audio ancillary equipment for today's military users.

Modern warfare has now become increasingly reliant upon highly mobile, rapid reaction forces who can be called upon to undertake a wide range of roles at very short notice. As a major supplier of military ancillary equipment for over ninety years with extensive experience in designing equipment to suit customers specific operational needs, Racal Acoustics recognises that no one product can now meet this diversity of requirements.

The introduction of Modular Cobra now provides the user with personal choice and the flexibility to reconfigure the equipment to suit a specific type of mission. No tools are required and configuration changes can be made in a matter of seconds.

The system components are fully ruggedised to withstand the extreme environments encountered in military operations, and human factors considerations have ensured optimum design for light weight combined with long term comfort. The design also ensures full compatibility with helmets, weapons and other personal equipment.

Further compatible products will be added to the range as new requirements are identified.

Headset

The basic headset consists of a small housing into which the microphone boom arm, earpiece and down-lead are assembled. Both the microphone and earphone are mounted on flexible arms to facilitate full adjustment.

The earphone is a close-coupled, supra aural type which stands off the ear, further enhancing comfort, and as the ear is not covered, monitoring of ambient noises and adjacent conversation is also maximised.

The low mass, noise-cancelling microphone, mounted on a flexible boom arm, can be either a dynamic or an electret type. The exceptionally low profile of the headset allows the user to wear even the most close fitting ballistic infantry helmet or other specialized headgear, such as ski-troop parka hoods, chemical and biological hoods, paratroop helmets or national head-dress. The headset is easily hidden under the helmet and, when not being worn, the Modular Cobra is sufficiently compact to be rolled up and carried in a jacket or trouser pocket.

All versions of the Modular Cobra can be supplied with a range of microphone and earphone transducers providing the appropriate impedance and sensitivity to suit the requirements of any radio system.

Headset Attachment

Three types of head mounting arrangements are available into which the headset can be clipped to facilitate different operational activities. In each case, the headset is attached to the carrier in seconds by means of a simple clip, which requires no tools.

Headstrap: A fully adjustable strap to fit around the head which is made from a combination of soft cotton and mesh materials to provide comfort and ventilation. Can be worn on bare heads, with berets or under helmets and provides a stable platform for the headset during strenuous activities.

Headband: An adjustable overhead spring band primarily for use by staff in HQ's and command centres. Can be worn with or without helmet.

Helmet Clip: A clip to attach the headset to the side of the helmet for combat operations.

Pressel Switch

The Press to Talk (PTT) Switchbox is a slim, moulded polyurethane assembly with an integral clothing clip. The box is fully waterproof and houses the PTT switch, which has a fully tactile action. The lower cable, which can be either straight or curly, connects to the switchbox via a strain relief grommet. Different cable, switch and wiring configurations are to customer's choice. The upper termination is a snap-fit connector which interfaces with the headset downlead.

For operational situations involving the use of two radios, a dual pressel switch is available which allows the selection of either radio as the working set with the other being monitored. The received signals from both radios can be presented to one ear for single sided headsets, or separated for split earphone working on double sided headsets.

In applications where a pressel switch is not required, or where the pressel function is removed, a simple connector and down lead is provided.

Optional Pressel

In some applications, such as the sniper role, it may be necessary to incorporate a separate pressel switch which allows radio activation without moving the hand from the weapon. This can be achieved by adding a palm pressel or ring pressel to the modular system. These pressel devices can be added to the system in a matter of seconds by means of a unique "T" connector which connects between the headset and the standard pressel switch. In this way, additional connectors are avoided on the lightweight headset and standard pressel, and are only carried by the ancillary being added, which minimises system costs. The "T" connector is stackable which allows several ancillaries to be added where required.

For NBC operations, a respirator microphone is available which can again be added to the system by means of the stackable "T" connector.

As new requirements are identified, additional features can be added to the modular system by means of the versatile "T" piece connector.

Voice Operated Switching

For hands free transmissions a Voice Operated Switch (VOS) option is also available. The VOS, which is fast acting and can incorporate a noise tracking switching threshold, is based on a well proven design which Racal has been supplying in large numbers to many military customers. Where used, the electronic circuit for the VOS is housed within the pressel box assembly.

Skeletal Handset

To complement the modular headset system, a lightweight handset is also available. A slim earphone is moulded into a small connector assembly, which also supports a flexible boom arm and microphone. The complete assembly can be directly plugged into the standard pressel switch by means of the moulded connector. The handset, which conveniently folds up to fit in a pocket, can be carried for emergency use or used on missions where weight reduction is essential.

Headset Attachment Options

The user can wear the headset in one of three ways, depending upon operational needs and personal choice. The headset can be attached or removed from the carrier in a few seconds, without tools, by means of a simple clip.

Headstrap: An adjustable soft mesh strap worn around the head for normal operations

Headband: An adjustable overhead, spring band primarily for use in HQ's and staff cells.

Helmet Clip: A universal clip which can be attached to the side of a combat helmet.



Headset

The lightweight, low profile headset comprises a central housing supporting a microphone and earphone, each mounted on independent flexible arms for optimum adjustment. The microphone is noise cancelling and can be either electret or moving coil type. The headset download is terminated in a snap-fit connector.

Single Headset

Boom Microphone

In-Line Options

The modular construction allows the connection of additional features by means of a unique, in-line "T" piece.

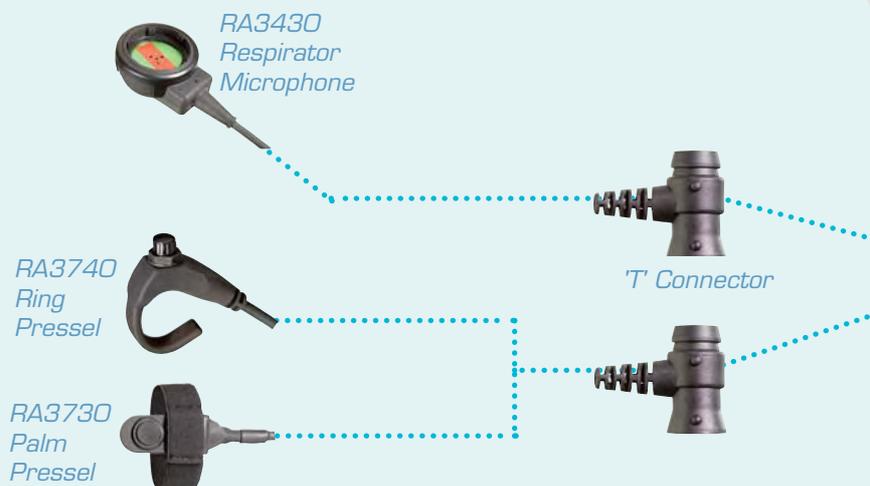
The optional range includes:-

Ring pressel: fitted to the finger to enable easy keying of the radio when holding a weapon in the sighted position

Palm pressel: fitted to the palm or to the weapon for radio keying.

NBC respirator microphone: provides a voice connection when using a respirator.

Further features will be added to the range, as new requirements are identified.



Pressel Switch

A choice of single or dual pressel switches is available to cater for single or dual radio applications. The pressel switches can be supplied with straight or curly cables, terminated with connectors to suit the customer's specific requirements. Where a pressel switch is not required, a simple in-line connector and download is available.

561855 In-line Connector

RAA3710 Dual Pressel





561846
Headstrap



561827
Headband



561852
Dual
Headband

Dual
Headset



Earphone



Snap-fit
Connector

'T' Connectors

An in-line "T" piece allows the connection of additional features. The "T" pieces are stackable, providing the ability to add multiple features.



RA3265
Skeletal
Handset

Handset

The modular range includes a lightweight handset for special forces or for emergency backup. The handset comprises a noise cancelling microphone and earphone mounted on a flexible arm which can be plugged in to a single pressel switch. When not in use, the handset can be rolled up and carried in a pocket or pouch.



RA3700
Single
Pressel

Interface
Connector



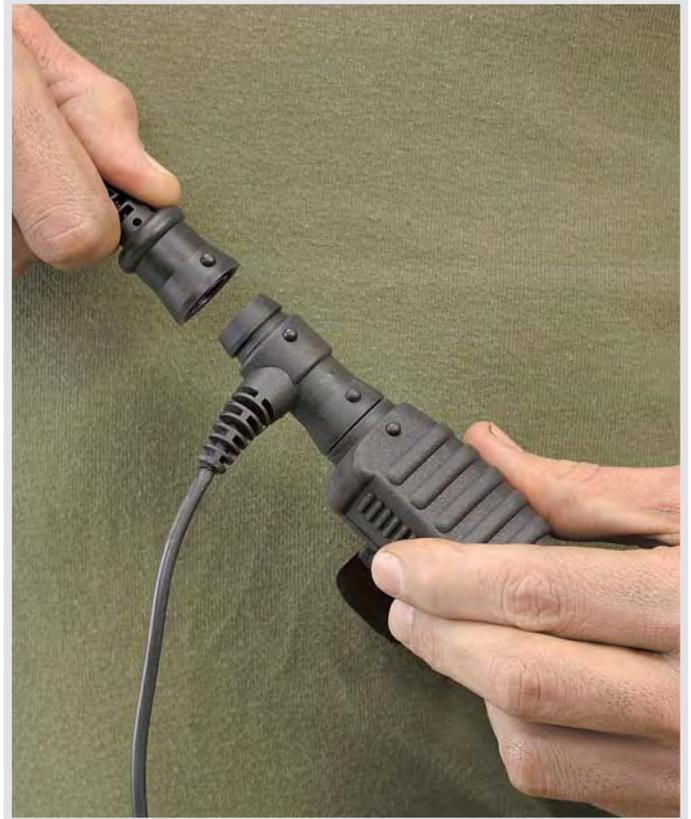
Interface Connector

The Modular Cobra System can be terminated with the appropriate Interface Connector(s) to ensure full compatibility with the radio(s) designated by the customer.

RA3185 MODULAR COBRA SYSTEM



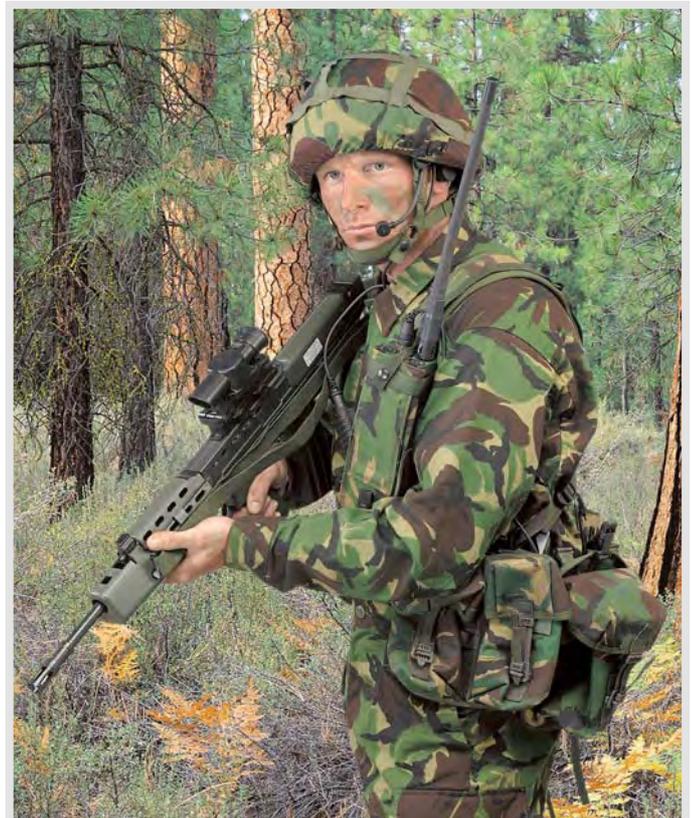
The Skeletal Handset is easily assembled by snapping together the handset assembly and the standard pressel. When not being used, the Skeletal Handset can be folded up and kept in a jacket pocket or webbing pouch.



The modular construction and the ability to add further functions with the 'T' connector allows rapid re-configuration for any operational role.



The lightweight, rugged construction is ideally suited to today's highly mobile, rapid reaction forces.



Comfortable and unobtrusive, the Modular Cobra does not impede the operational activities of combat troops.

TECHNICAL SPECIFICATIONS

ELECTRO-ACOUSTIC DATA

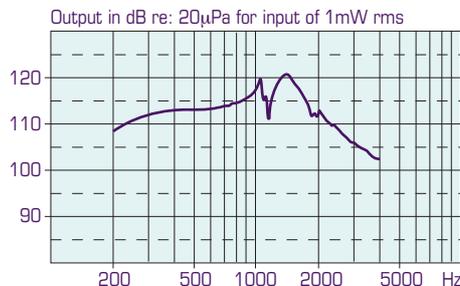
Earphone and microphone measurements are made by standard methods as described in publication no. 9022.

Earphones

Transducer type: moving coil

Part No: 561264

Typical frequency response:



Sensitivity: 117dB SPL (ref: 20 μ Pa)/mW rms at 1kHz, nominally

Impedance: 300 ohms at 1kHz nominally

Climatic: environmentally protected

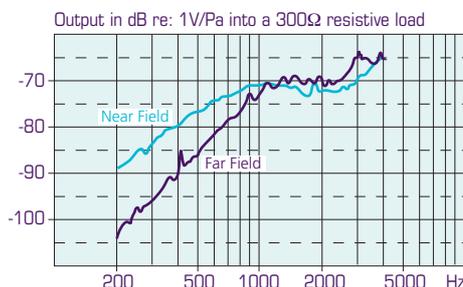
Boom Microphone

Transducer type: noise cancelling moving coil

Part No: 561240

Sensitivity: -70dB re 1V/Pa, into a 300 ohm load at 1kHz, nominally

Typical frequency response:



Impedance: 300 ohms at 1kHz, nominally

Noise cancelling performance: difference in output level of nominally 14dB at 200Hz between near field and far field (i.e. at 1m from source)

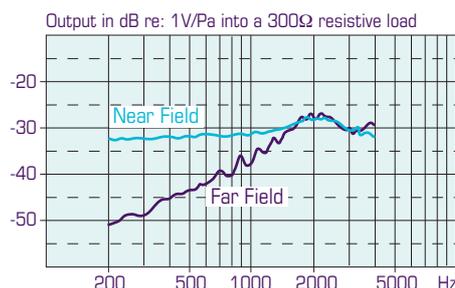
Climatic: environmentally protected

Transducer type: noise cancelling electret

Part No: 561265

Sensitivity: -30dB re 1V/Pa, for a drive voltage of 5V dc via a 5.6 kohm load, nominally

Typical frequency response:



Impedance: 300 ohms at 1kHz, nominally

Noise cancelling performance: difference in output level of nominally 18dB at 200Hz between near field and far field (i.e. at 1m from source)

Climatic: environmentally protected

ELECTRICAL DATA

Switches

The Press-to-talk (PTT) switch shall be capable of 500,000 make-break operations.

Voice Operated Switch (VOS)

VOS supply voltage: 9V to 30V

VOS current consumption: typically 5mA

Attack time: factory set to customer choice, in range 5ms to 1s

Hang time: factory set to customer choice, in range 0s to 5s

VOS selection: by means of switch on PTT box "VOS enable/VOS disable"

Override: normal PTT switch can be used to override VOS at any time

EMC: the design has been optimised to meet the RF environments of battlefield tactical radios

PHYSICAL DATA

Environmental

Usage temperature: -30°C to +55°C

Storage temperature: -40°C to +70°C

Humidity range: Up to 95% RH

Immersion: 2 hours at 1 metre

Mass

Single Headset assy: 60g

561827 Single Headband assy: 30g

Dual Headset assy: 85g

561852 Dual Headband assy: 350g

561846 Headstrap assy: 15g

561822 Helmet Clip: 10g

561855 Lower Snap-fit Connector assy: 70g

RA3700 Single Pressel assy: 100g

RA3710 Dual Pressel assy: 220g

RA3730 Palm Pressel & 'T' : 75g

RA3740 Finger Pressel & 'T' : 65g

RA3430 Respirator Microphone & 'T' : 105g

RA3265 Skeletal Handset assy: 55g

Helmet Compatibility

This headset and handset are compatible with a wide range of infantry helmets, including the British Army GS Mk 6 and the US Army PASGT helmets.



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