

# **Instruction & Installation Manual**



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**TECSTAR ELECTRONICS LTD**  
Universal Helmet Communication System

## Safety First

### Please read carefully before installing or using this equipment

The StarCom equipment is designed for motorbike use but it remains the responsibility of the rider to ensure that their safety is in no way impaired when using the equipment.

The system must only be used when the rider is completely confident that his/her riding will in no way be impaired with the use of audio equipment.

Distraction of any kind can be dangerous when riding a motorcycle.

When installing the helmet kit, the helmet must not be modified in any way.

When installing the cabling, the safety release connectors must be free to release. Do not bind or restrict the connections in any way.

All cabling should be installed so that it will not flap free. There should be no cable slack that could potentially catch in the moving parts of the vehicle.

The rider must be able to hear warnings from other road users at all times. The volume must be set at a level to allow this.

When using a mobile phone or other devices that transmit, you should check with your bike dealer that it is safe to do so.

Do not use the system at high volume levels as this may cause hearing damage. The system is capable of high volume, which is only intended for use with earplugs.

Tecstar Electronics will not accept any liability relating to the installation or use of this equipment. It remains the user's responsibility to ensure that their safety will not be impaired in any way before installing and/or using the system. If you are not completely satisfied that you can use the system safely, it should be returned to the place of purchase.

### **Fitting Optional Audio Equipment**

When using optional audio equipment including radar detectors, GPS or other equipment, which is powered from the 12V bike supply, or is grounded to the bike, a isolated cable must be used. Do not use the standard music cable supplied. Please contact your dealer for the correct cable required.

Incorrect connection may cause damage to the equipment.

## Accessories & Spares

Order Code	Description
MUS-01	Music lead (walkman type portable stereo headphone socket)
MUS-03	Car stereo isolated music wiring kit.
MUS-04	Stereo isolated music cable for bike powered devices 3.5 to 3.5mm jack.
SH-004	Helmet Set Bud Mic (full face) including adaptor cable (1.5m)
SH-006	Helmet Set Boom Mic (open face - full open face slide fitting) inc cable (1.5m)
PP-04	Helmet Set (FullFace) 3.5mm socket for ear phones Inc HSEX-01
PP-06	Helmet Set (OpenFace) 3.5mm socket for ear phones Inc HSEX-01
PP-010	PlugPhones generic ear plug/phones stereo
PTT-02	Push-To-Talk Handle bar switch kit 2m straight cable. Unobtrusive mounting, mounts under the left grip.
CAB-01	Cable to connect Kenwood TK3101 or UBZ/ FunKey446 to StarCom
CAB-02	Cable to connect TS500/700 or XT5000 to StarCom
CAB-04	Cable to connect Motorola 5000/6000 series to StarCom.
CAB-09	Cable to connect Uniden radios to StarCom.
CAB-11	Cable to connect StarCom to 4pin CB radio
CAB-14	Cable to connect StarCom to Motorola radios (GP320).
CAB-20	BMW power lead
SCG-01	StarCom1 DC power to Cigarette power cable
SFK-01	StarCom1 Fitting kit including DC power
HSEX-01	Head Set extension lead 1.5m coiled cable
HSEX-02	Head Set extension lead 60cm straight cable
HSEX-03	Head Set extension lead 2m/6ft straight cable
HSEX-04	BULKHead Set extension lead 2m/6ft straight cable
HSEX-05	BULKHead Set extension lead 60cm/2ft straight cable
BKT-01	BULKHead fixing bracket (allows for fitting to bike frame)
CAB-06	SideCar interface cable
CAB-35	Navigation/Radar cable Isolated lead 2.5mm or 3.5mm mono Jack
ADA-01	StarCom Audio/Phone input splitter, input doubler 3.5mm jack.

For a full accessories list please consult your dealer, Tecstar or [www.starcom1.com](http://www.starcom1.com)

## Troubleshooting Guide

### Power LED fails to illuminate:

1. Check that the bike ignition is turned on and that Head Set 1 is connected.
2. Check the connections made to the fuse and to the bike supply.
3. Check that the fuse contacts are clean and the fuse holder spring is tensioned.
4. Check the power lead has been connected with the correct polarity, 12v +ve to Red wire. 0v -ve to black wire.

**Music keeps stopping:** The VOX system is incorrectly set up, it is too sensitive and low-level noise such as breathing into the mic is triggering it.

### Low volume speech:

Poor positioning of microphone; see helmet kit installation.

### Low mobile phone volume:

Poor positioning of microphone; see helmet kit installation.

### Radio to Radio Problems

#### **Radio does not receive transmission from another radio:**

Check both radios are on the same channel and the same sub channel (if sub channels are being used).

#### **Radio transmits continuously:**

The VOX system is incorrectly set, see VOX set-up and operation.

#### **Radio transmits when receiving**

The radio volume is set too high, volume on the radios should be no higher than half.

### **Optional Bulkhead connectors HSEX-04 HSEX-05**

The HSEX-04/05 headset extension cable connects to the StarCom 1 headset input to a waterproof bulkhead fitting socket. It can be fitted to any convenient and available body panel. Once fitted the helmet kit can easily and quickly be connected when required, simply flip the weatherproof lid and plug in the coiled helmet extension lead.

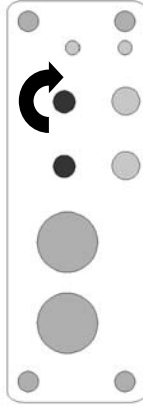


## Contents

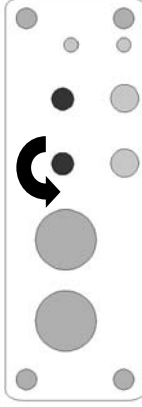
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## Quick set up guide

Set the VOX control fully clockwise to turn the VOX system OFF.



Set the Volume fully Anti-clockwise to turn the Volume to minimum.



Connect power to the unit and connect head set 1. Check the power (Red) LED illuminates when the head set is connected.

### VOLUME SET UP

The pre-set Volume level will need to be set loud enough to hear comfortably whilst not too loud to prevent the rider from hearing warnings from other road users.

Always start with the volume control set to minimum (fully anti-clockwise) and only when you can hear sound, gradually increase (turn clock-wise) to the desired setting.

#### Rider to Passenger

When a rider pillion system is being used the volume should be set that when talking helmet to helmet the sound level is correct. The volume of other devices e.g. phone or music can then be set by adjusting the volume at the phone or music system.

#### Sole Rider

Connect a portable music system or phone with its volume set at mid-level. Then adjust the StarCom volume to give the desired sound level. There after volume adjustments should be made to the music system or other added devices

#### Bike to Bike

Connect the radio to StarCom and set the radio volume at mid level. Then adjust the StarCom volume to give the desired sound level; there after volume adjustments should be made to the radio or other added devices

## Satellite Navigation or Radar equipment interface

Further electrical devices may be added to the system such as a satellite navigation system with audio output. If music mute is required then the inputs must be connected to the 'Phone' input, or the 'music' input. An adapter lead is required to connect the equipment audio-out to a 3.5mm jack plug; please consult your dealer. If the equipment is to be used at the same time as a mobile phone then a 3.5mm two-way splitter will be required. When connected, the volume level of this device will need to be adjusted to give the required volume in the Helmet. Always set the volume low and gradually increase to the desired level. To operate turn on, then place in a safe place (waterproof pocket etc.).

## Battery Condition

The Batt (Green) LED indicates the battery state, when good the LED will remain off, when the battery is low the LED will begin flashing, this indicates that the battery needs replacing.

**Note: If the battery is allowed to discharge the LED will eventually stop flashing and the battery must be removed. Never leave a battery in the unit when flat or if the unit is not to be used for a long period of time.**

## Maintenance

The Manufacturers or their agents overseas will provide a repair service for any unit developing a fault.

## Cleaning

If the unit requires cleaning, use a cloth that is only lightly dampened with water or a mild detergent.

**WARNING! TO AVOID DAMAGE TO THE UNIT, NEVER ALLOW WATER TO GET INSIDE THE CASE. TO AVOID DAMAGE TO THE CASE, NEVER CLEAN WITH SOLVENTS.**

## Guarantee

The manufacturers provide a 12-month guarantee period from the date of purchase. The guarantee covers faulty materials and workmanship.

**The Guarantee will be void if the equipment has been tampered with, modified, mis-used or subject to neglect.**

## Mobile Phone Interface

To add a mobile phone to the system a phone adapter kit is required. This includes a phone adapter which plugs into the phone, and a 3.5mm to 2.5mm jack lead to connect the adapter to the StarCom unit. The mobile phone must have the facility to auto answer an incoming call. Once set in this mode the phone is plugged into the system, turned on and then placed in a safe place (waterproof pocket etc.).

When the phone rings the StarCom unit will mute music, if playing, and allow a normal phone conversation. When connected the volume level of this phone will need to be adjusted to give the required volume in the Helmet. Always set the volume low and gradually increase to the desired level.

**Note:** *1) Some digital phones may cause interference. If this is the case then try to mount the phone as far as possible from the StarCom unit.*

*2) Some digital phones do not feed the ring tone to the hands free socket, so although the call will be answered, the music system of StarCom will not be muted until the Rider or caller speaks.*

## Music Interface Portable personal music systems

To add stereo music to the system a music lead is required. The lead plugs into the headphone output from the music player and into the StarCom unit's 'AUDIO' input. When connected the volume level of this music system will need to be adjusted to give the required music volume in the Helmet. Always set the volume low and gradually increase to the desired level.

**Note:** *The VOX system may delay the unmute function by 5 seconds.*

## Music Interface Installed Car Radio system

The signal level of the music may differ between a portable system and a car radio type system. For headphone outputs a low voltage is output while for speakers from a car radio the voltage level may be much higher. It may be necessary to reduce the input level. StarCom allows for the input to be reduced (if required) and isolated. The reduction selection is achieved by the position of 2 links within the unit. Link positions are:

- 1) Headphone setting:  ● ● ● ●  2) Speaker setting:  ● ● ● ●
- (Factory setting)

The links are located at the top right of the circuit board close to the ON LED.

The links may be moved by a qualified person as follows:

- Step 1. Remove all cables and connection to the unit.
- Step 2. Remove the four screws securing the metal end panel marked head set 1.
- Step 3. Carefully take hold of circuit board and pull out 2cm only.
- Step 4. Move the links to the positions indicated above.
- Step 5. Slide the PCB back into the case, ensure 2x 3.5mm connectors clear the case.
- Step 6. Replace the four cross head screws securing the metal end panel.

## Quick set up guide continued

### VOX SET UP

The unit provides a VOX (voice operated control, that works on you voice level) facility with a VOX level pre-set control. This is designed to provide hands-free control of the radio and also hands-free muting of the music system. The VOX control needs should be set to operate at comfortable voice loudness while insensitive enough to not falsely ignore increased background noise or breathing into the microphone.

VOX is not required for rider to passenger operation but it may be used to mute music when talking.

With the VOX control fully clockwise the VOX feature is off. As the control is turned anti-clockwise the sensitivity will gradually increase.

To set the VOX always start with the control fully clockwise (OFF) and gradually turn anti-clockwise to the desired level while talking into the microphone. Repeat to confirm the level. Note; turning the VOX control may falsely trigger the VOX system for a second.

### Set up with music

Connect a music system to StarCom. Then while talking at your desired voice level directly into the microphone, adjust the VOX level anti-clockwise until the music is muted.

### Set up with two-way radios

*It is recommended that you start off using the PTT (push to talk switch) to become acquainted with operation the radio system and then start using the VOX late if desired.*

Connect the radio to StarCom. Then while talking at your desired voice level directly into the microphone, adjust the VOX level anti-clockwise until the radio transmit can be observed turning on when you talk and turning off approximately 1 second after talking ceases.

If the VOX switch keeps turning off while talking; turn the control slightly anti-clockwise. If the VOX takes longer than 1 second to turn off when talking has ceased; turn the VOX control slightly clockwise

**It may take a number of trial runs to achieve the best setting.**

## Introduction

StarCom can be used as a sole rider, a rider and passenger, a bike-to-bike system or all three and also as a battery portable or installed unit. The core system is a StarCom Module and a Rider/Driver headset; from this basis you simply add what's required either immediately or at a later date.

For Rider to Passenger communication, simply add a second helmet kit, plug it in and talk on the full duplex intercom system.

For bike-to-bike communication, simply add one of the ranges of two-way radios, and talk to other bikes up to two miles away. (Depending on the Radio and terrain.)

Stereo music can be connected to the units audio input from a car stereo (a car stereo adapter accessory is available), Walkman, MP3, Sat Navigation or radar device.

To add a Mobile Phone to the system, just add a phone adapter kit, adapters to suit most phones are available. (The phone must have an auto answer mode.)

## Specification

- ◆ Audio output power: Max 1 Watt into each headset speaker
- ◆ Power supply: 12V DC external power input from vehicle or PP3 (MN1604) 9V battery internal
- ◆ External power: 10V to 15V DC 1000mA max
- ◆ Protection external: In-line 2A slow blow fuse
- ◆ Visual indication: Power On (Red) LED, Low battery (Green) LED
- ◆ Power consumption: 150mA typical, music playing 200mA typical
- ◆ Intercom operation: 100mA typical (PP3 approximate time 4 hours)
- ◆ Music into 2 headsets: 250mA typical (PP3 approximate time 2 hours) (WxHxD) 130x80x30mm
- ◆ Dimensions: Approx 250g (including PP3 battery)
- ◆ Weight: -10 to +55°C
- ◆ Operating temp: 3.5mm stereo jack socket.
- ◆ Phone input: 3.5mm stereo jack socket. Built in isolation
- ◆ Audio input: Internal reduction user selectable.
- ◆ Electrical safety: Designed to EN60950-1: 2002
- ◆ EMC: Complies with EN55103-1: 1997D

*Due to a policy of continuous development, specification and design may be subject to change without notice.*

## Pack Contents

- 1 x StarCom1 communication unit, 1 x External DC power cable
- 1 x Fitting kit, (1 x DC cable fitting kit 3 x cable crimp connectors, 10 x tie wraps, 1 x 4 Velcro discs, 1 x Instruction & Installation manual, 4 x Rubber mounting pads)

## Vox Set up and Operation continued

The voice level needs to be set to suit the maximum speed and background noise levels you intend to encounter. Usually this means a level which requires the user to raise his voice slightly.

If you experience problems with the Vox system we recommend that the PPT switch is used. The two systems can be used together and can be arranged so that the VOX is set to a fairly high sound level, which reduces the chances of falsely turning on but can still be used by raising your voice. While for quiet normal talking the PTT switch is used.

## Rider pillion volume balance

The volume balance between the rider and pillion can be adjusted. This allows for either person using ear plugs. The reduction selection is achieved by the position of 1 link within the unit. Link positions are: (Viewed with links in bottom right of circuit board.)

HeadKit 1 reduction: ●●●●● No reduction: ●●●●● HeadKit 2 reduction: ●●●●●  
(Factory setting)

The link is located at the bottom right of the circuit board close to the head set1 connector.

The link may be moved by a qualified person as follows:

Step 1. Remove all cables and connection to the unit.

Step 2. Remove the four screws securing the metal end panel marked head kit1.

Step 3. Carefully take hold of circuit board and pull out 2cm only.

Step 4. Move the links to the positions indicated above.

Step 5. Slide the circuit board back into the case, ensure the 2x 3.5mm connectors clear the metal case.

**Step 6. Replace the four cross head screws securing the metal end panel.**

## Two-way Radio Interface

To add a two-way radio a radio adapter lead is required. This plugs into the StarCom 6-pin socket labelled RADIO and the other end to the Radio. When connected the volume level of the Radio will need to be adjusted to give the required volume in the Helmet. Always set the volume low and gradually increase to the desired level. To operate turn on and then place in a safe place (waterproof pocket etc.).

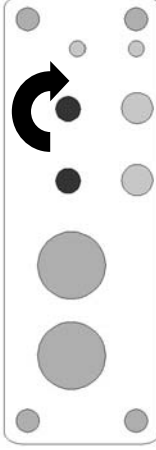
**Note: The radios used are PMR446, so radios may be on the same channels as other users and therefore may cause interference, if this is the case then try setting the radios to a higher number sub-channel. see radio instructions.**

## VOX Set-up and Operation

The VOX system used on a Bike can be subject to fundamental problems:

- 1) The VOX level has to be set to allow for the maximum road speed conditions, if set too low the VOX system may turn on in error.
- 2) A pause in speech of around 1 second, or quiet speech, may cause the system to turn off in mid sentence.

The unit provides a VOX (voice activated transmission) facility with a VOX level preset control. This is designed to provide hands free control of the radio and also hands free muting of the music system. The VOX control needs to be set to a level of sensitivity that suits the rider's voice and the environment, i.e. helmet and bike noise levels. The level should be sensitive enough to operate at comfortable voice loudness while insensitive enough to ignore increased background noise or breathing.



The diagram shows the Starcom control panel. The arrow indicates direction to reduce the VOX sensitivity, fully clockwise turns the VOX OFF and fully anti-clockwise gives maximum sensitivity

When the VOX system is active it will automatically reduce the sensitivity when the background noise level is increased.

The VOX control will give a full range of control from the MAXIMUM setting (fully anti-clockwise) which will give almost constant transmit to the MINIMUM setting (fully clockwise) which will turn the VOX feature OFF. As the control is turned clockwise from the maximum position the sensitivity will gradually reduce.

With the VOX control fully clockwise the VOX feature is OFF. As the control is turned anti-clockwise the sensitivity will gradually increase.

To set the VOX always start with the control fully clockwise (OFF) and gradually turn anti clockwise to the desired level while talking into the microphone. Keep talking to confirm the level. Note turning the Vox control may trigger the VOX system.

### Set up with music

Connect a music system to StarCom. Then while talking at your desired voice level directly into the mic, adjust the VOX level anti-clockwise until the music is muted.

### Set up with Two-way Radios

Connect the radio to StarCom. Then while talking at your desired voice level directly into the mic, adjust the VOX level anti-clockwise until the radio transmit indicator can be observed turning on when you talk and turning off approximately 1 second after stopping talking.

If the VOX keeps turning off while talking, turn the control slightly anti-clockwise.

If the VOX takes longer than 1 second to turn off when talking finished, turn the VOX control slightly clockwise.

**It will take a number of trial runs to achieve the best setting.**

## Safety First

The StarCom equipment is designed for motorbike use but it remains the responsibility of the rider to ensure that their safety is in no way impaired when using the equipment. When installing the helmet kit, the helmet must not be modified in any way.

When installing the cabling, the safety release connectors must be free to release. Do not bind or restrict the connections in any way.

All cabling should be installed so that it will not flap free. There should be no cable slack that could potentially catch in the moving parts of the vehicle.

The rider must be able to hear warnings from other road users at all times. The volume must be set at a level to allow this.

When using a mobile phone or other device that transmits, you should check with your bike dealer that it is safe to do so.

**Installation instructions must be followed carefully.**

## Installation Considerations

The StarCom unit is supplied with a Velcro disc and tie wrap mounting kit. The unit can be battery operated or connected to the 12V DC vehicle supply. A power lead with fitting kit and fuse is supplied. Fitting requires electrical connections to the bike supply.

**It is recommended that for anything other than occasional use the unit be powered from the bike 12V DC supply.**

Installations must only be undertaken by a person who has a full understanding of the electrical, safety and mechanical requirements involved. If in any doubt, please consult your dealer.

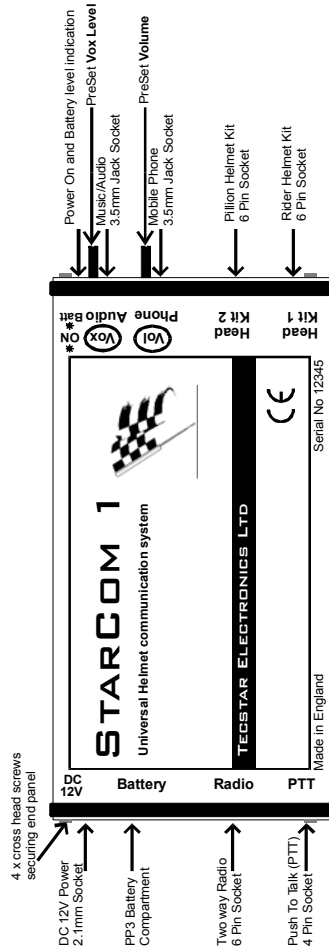
## Unit Installation

The unit can be operated as battery portable or installed to run off the vehicle 12V DC supply. When used as a portable it can simply be placed in a pocket. The unit is water-resistant but not waterproof so care must be taken to keep it dry. If the unit is to be installed on the bike then a fitting kit is supplied. Due to the possible variations of each installation each case will require mechanical and electrical knowledge by the fitter. The unit needs to be positioned so that it is protected from the weather but is accessible. Care must be taken not to mount the unit near areas which will get hot, for example, near the engine or exhaust. Also the unit must not be placed close to the ignition system, HT leads coil, alternator, or parts of the bike that could cause electrical interference.

## Unit Installation continued

The ideal mounting position is under the seat. Using the Velcro discs provided secure the unit into position. Four rubber feet are supplied and may be fitted to the underside of the unit to reduce movement caused by vibration and to prevent the unit from rubbing against the bike. Long tie wraps are also supplied as an alternative or additional mounting. Plug in all required cables to the unit ensuring there is some cable slack to allow for unplugging. The cables need to be secured to prevent them becoming disconnected from the unit when the cables are tugged or when in use. Cable tie wraps are included for securing the cables. Ensure the unit is easily accessible and removable. If the bike is not to be used for some time (winter months), the unit should be removed and stored in a dry place.

**Note: If electrical noise is present, for example a clicking or a whining sound, this may be due to the HT system or the alternator and may be cured by moving the StarCom unit and wiring further from the bike electrics. In some cases it may be necessary to improve the electrical suppression on the bike; please consult your bike dealer.**



## Battery Installation and Replacement

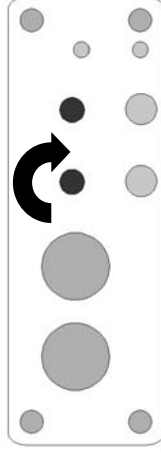
The battery is located within the box at the end marked Battery. Access the battery as follows:

- Step 1. Remove all cables and disconnect the unit.
- Step 2. Remove the 4 cross head screws securing the metal end panel.
- Step 3. Carefully take hold of the battery terminal clip, and pull out the old battery.
- Step 4. Disconnect the old battery and dispose of correctly.
- Step 5. Connect the clip to the new battery. (Only use alkaline batteries.)
- Step 6. Slide the new battery into the compartment until the battery clip is flush with the connectors. Be careful to locate the battery squarely in the space provided.
- Step 7. Replace the 4 cross head screws securing the metal end panel.
- Step 8. Connect the rider headset, and check the ON LED illuminates.

**Warning: always remove batteries when empty, flat batteries may leak electrolyte into the unit causing damage**

## Volume Set-up and Operation

The unit provides a Volume level preset control. The Volume control needs to be set to a level suitable for the rider's normal operating conditions, i.e. Helmet and bike noise levels and whether earplugs are used. The level will need to be loud enough to hear comfortably while not too loud to prevent the rider from hearing warnings from other road users.



This diagram shows the Starcom control panel. The arrow indicates the direction to increase the volume, fully clockwise sets maximum while fully anti-clockwise sets minimum volume.

The preset volume sets the unit amplification. This will control the intercom loudness directly. The actual loudness of the music, radio and the phone inputs will also depend on their individual volume setting.

The Volume system is active and will automatically increase the loudness when the background noise level is increased.

The Volume control will give a full range of control from the MAXIMUM setting (fully clockwise), which will give highest loudness to the MINIMUM setting (fully anti-clockwise) giving the lowest volume setting. As the control is turned clockwise from the minimum position the loudness will gradually increase.

To set-up the preset Volume level you will need to have your helmet on. If a second Helmet kit is to be used then the volume should be set to suit the intercom system. If a second helmet is not to be used then connect any accessory, a music system, a radio or a phone with the accessory's volume set to a mid-point. Start with the preset Volume set to a midpoint and then adjust until the required volume is achieved. Remember that the volume system is active and will automatically increase when the background noise level increases (at speed).

**It may take a number of trial runs to achieve the best setting.**

## Safety First!

The StarCom equipment is designed for motorbike use but it remains the responsibility of the rider to ensure that their safety is in no way impaired when using the equipment. The rider must be able to hear warnings from other road users at all times, the volume must not be set at too high a level to prevent this.

### Rider to Pillion use

With both Helmet kits connected, a full duplex conversation can be made i.e. the rider and pillion can talk at any time or even at the same time.

If music is added to the system then both rider and pillion will be able to listen to the music in stereo. If the VOX system has been set-up then when the rider or pillion talks the music will be muted, it will remain muted until the conversation has been stopped for approximately 5 seconds. If a PTT switch is connected then pushing the switch will also mute the music.

### Bike to Bike using a mobile radio

Adding a PMR446 mobile radio will allow communication to another radio up to 2 miles away. You will need a radio adapter lead to connect the radio. This plugs into the StarCom via a 6-pin socket labelled RADIO and the other end connects to the radio. When connected, the volume level of this radio will need to be adjusted to give the required volume in the helmet. Always set the volume low and gradually increase to the desired level.

With the radio connected, the rider can transmit to a distant radio by using the PTT switch or (if the VOX system has been set-up) by simply talking and the VOX system will put the radio into transmit mode. It will remain in transmit mode for approximately 1 second of silence.

*It is recommended that you start off with the PTT (push to talk system) to become acquainted with the radio system and then add VOX later.*

While the radio is transmitting and for 1 second after finishing talking you will not be able to receive a message. Note also that having received a message you should wait for approximately 1 second before talking. Wait for the 'roger' beep or end of transmission click from the distant radio before talking.

Using the mobile radio will automatically mute the music system. It will remain muted until the radio has been silent for approximately 5 seconds. A mobile phone may be added to the system. To operate with the system the phone must be set to auto answer mode. When the phone is answered, the music system will be muted as before and the rider can converse in the normal way.

**Note. The radio and phone are given equal priority and therefore when talking on the phone with a radio system connected and VOX active, the speech will cause the radio to transmit.**

### Bike Power Cable Installation

The unit can be powered from an internally-fitted 9V battery or from the vehicle supply. The unit has a built-in voltage regulator, reverse input protection and fuse, so that it is safe to use directly from a vehicle's fused supply. A power cable is supplied along with an in-line fuse and fitting kit.

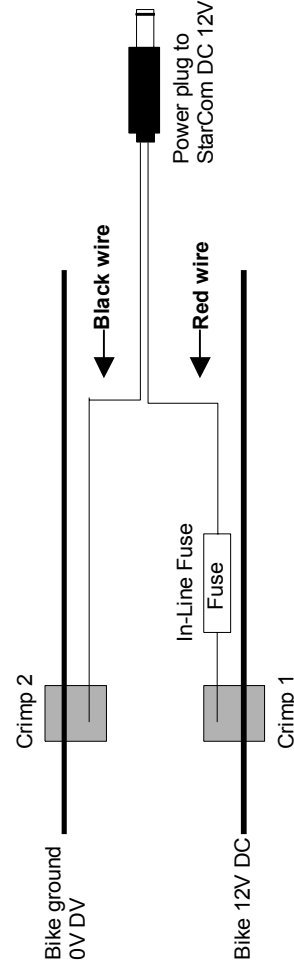
**Installation must be carried out by a suitably qualified person. Please consult your dealer.**

**Step 1.** Locate a suitable point for power connection. This should be a fused supply ideally from the ignition or the lighting circuit and needs to be carefully selected for both suitability and location. Please seek advice from your dealer. Never connect directly to the battery without an in-line fuse placed as close as possible to the battery.

**Step 2.** Using a crimp connector (Crimp 1) or solder joint, connect the fused Red wire to the bike 12V (positive) supply.

**Step 3.** Using a crimp connector (Crimp 2) or solder joint, connect the StarCom power lead -ve, which is the black wire, to the bike 0V (negative) supply or to a suitable chassis ground point. Tape all joints to insulate electrically and protect from moisture.

**Step 4.** Using the 10cm cable ties provided ensure that the fuse crimp connectors and the wiring is secured to the bike frame along the full cable at least every 10cm. You must ensure that the wire cannot fall or bend and foul or touch any moving parts. You must also ensure the wire will not be trapped or pinched in any way, for example, by the seat. Only mount to the bike frame or bodywork and avoid all working parts including brake pipes, ignition cables, etc.



## Helmet Kit Installation

### Step 1 Speaker and microphones

The helmet assembly comprises two speakers and a microphone which are Velcro attached into position, one speaker adjacent to each ear and the microphone in front of the mouth (a boom mic in the open face helmet kit).

The speakers need very careful positioning: ensure that they are both adjacent to and almost touching each ear, as with headphones even a small gap reduces the volume significantly. Any gap will increase the background bike and wind noise

**The mounting of the microphone is the most critical part of the system.**

Poor mounting will result in very low speech volume requiring a high volume setting and resulting in poor signal to noise performance and poor vox performance at normal traffic speeds.

#### Full Face Microphone

The microphone is designed to only pick up sound from directly in front and very close to it. This minimises the pick up of background noise.

The microphone needs to be mounted very close to the mouth, ideally just touching your lips. If the distance between the helmet front and your mouth is too great then use double-sided sticky foam pads to space the mic. Also it **MUST** be mounted such that you talk into the centre of the microphone.

You will need to test the positioning: the volume of the microphone will increase dramatically as you talk into the ideal spot. Use the sticky felt strips provided to secure the wire.

#### Open Face Microphone

Mount the open face microphone such that the ideal spot indicated by the white/silver mark, is very close to the mouth, ideally just touching your lips.

The microphone (SH-006) boom is a strong bend and stay construction with a simple mounting. The flat rubber spade end to the microphone stem is designed to be inserted or pushed behind the helmet lining to provide a simple and sturdy fit. The microphone stem should be installed so that the centre of the foam area is over your lips and there is as little of the boom showing as possible to minimise the wind drag and microphone buffeting at speed.

Two levels of wind protection are provided: the standard foam will protect the microphone from moderate wind speeds on un-faired bikes while the secondary foam will give the ultimate protection for completely open face applications. The secondary foam is simply pushed over the standard foam and secured with the cable tie provided.

The wiring should be neatly pushed within the helmet padding leaving a short connection cable protruding a few centimetres to one side of the helmet. Sticky felt strips are provided for securing the wires neatly to the helmet. The quick release connector is then ready to connect to the system.

### Step 2 Push to Talk switch

The PTT switch assembly is designed to be used either on a glove or attached to the handlebars or to the bike frame. The switch assembly has a Velcro strap allowing simple attachment to the desired location. For handlebar mounting the Velcro strap may be adjusted to suit, the strap may be removed and the PTT switch can be taped into position. The strap mount may also be removed by unscrewing the 2 cross head screws leaving only the rubber switch. Route the cable to a convenient position and tape down as required. The connector is then ready to connect to the StarCom Port PTT connection.

### Headset extension cable stowage and weatherproof cap

A rubber connector cap and fixings are provided to protect the headset extension cable connector when not in use. The rubber cap can be secured to the bike with the cable tie fixing and cable tie as shown. This provides a weatherproof and secure stowage position when the headset is not being used.



### Operation

Plugging in the Rider headset (Helmet Kit 1) turns the system ON and removing it will turn the unit OFF. This is also the case when plugging the Helmet kit into the extension lead. The unit provides a user master volume control and incorporates an intelligent active volume adjustment system which senses the background noise level and adjusts the volume to compensate. The master volume is therefore set to a suitable level (see Volume control section). When this has been determined the control will not need further adjustment. The unit also provides a VOX system, this allows the user to control the radio transmission and the music mute by voice. By simply talking the VOX will mute the music system so that you can talk to a passenger or transmit on the radio to talk to another vehicle. The VOX can be used instead of or as well as the PTT (push to talk) switch. Once set up operation is very simple: plug in the Headset and away you go.

### Sole Rider use

If music is added to the system then the rider will be provided with music in stereo. If the VOX system has been set-up then when the rider talks the music will be muted and will remain muted until the rider has been silent for approximately 5 seconds. If a PTT switch is connected then pushing the switch will also mute the music. If a mobile radio is added to the system the music will again be muted when the radio receives a message and the rider will hear the message clearly. The rider can transmit on the radio by using the PTT switch or be simply talking with the VOX system. A mobile phone can also be added to the system. The phone must be set to auto answer mode. When the phone is answered again the music system will be muted and the rider can then have a normal telephone conversation.