

get the edge

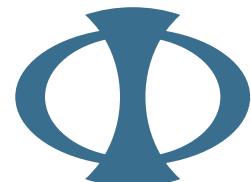
XSports® 2400

wireless communication



* Equipment case not included

general specification



Phicomm®
extreme communication

features

- Advanced Digital Signal Processing
- Digital noise filtering
- Talk in privacy
- Low power consumption - extended operation time
- Intrusion Protection rating - 67 (IP67)
- MILSTD 810F
- Virtual Networking
- Interface to PMR Communications products
- Software Upgrade capability
- Audio Annunciation
- Lightweight and Compact Design
- Rugged construction
- Removable belt clip
- LED indication
- Automatic reconnect
- Large Push to Transmit Button
- Plug and play accessories
- Powered by ClarinoxBlue
- 2 Users stored to caller memory *
- 1 Preferred User *
- Critical single button control for function access
- Remote PTT capability

Warning: Any changes or modifications not expressively approved by Phicom Pty Ltd could void the user's authority to operate this equipment.

XSports 2400

Use your XSports 2400 to:

- Communicate with up to 3 (programmable) stored users
- Communicate via long haul communications equipment
- Enjoy clear sound quality
- Speak using full duplex communication
- Enjoy speaking in privacy
- Experiment with two different filters

This equipment has been tested and found to comply with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65. The antenna used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

CLASS B Product

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna

Increase the separation between the equipment and receiver

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected

Consult the dealer or an experienced radio/TV technician for help

- * If your application requires additional users, models can be software upgraded for up to 100 users and 50 associations with the Push to Transmit button. If you feel your application has these sorts of requirements please contact Phicom for further information and a quotation.



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electrical

Unit Indicators

Charging - Red LED is on continuously

Fully charged - green LED flashes

Bluetooth mode - Amber LED flashes

Unit operation time (fully charged battery)

Unit shelf time before charge (off state)	4 months
Unit On - connected (talk time)	4 hours
Unit On - Talk time ratio 20% with 80% standby	8 hours

Charging

Unit is charged via the main connector

Audio

Audio standard out - differential 4 ohm 200mW Stereo / Mono

Audio with adapter - single ended 4 ohm / 8 ohm 100mW

Important Notes - Battery

The battery used in this product is a Lithium Ion cell. For health, safety and environmental considerations, the following is to be observed.

The battery must NOT be

- incinerated
- disposed of with household or industrial refuse

The battery should be

- disposed of at an approved battery recycling centre
- returned to the manufacturer (please see the website for conditions of return)

Bluetooth

Bluetooth compliant 1V2 Class 1 (100mW) operation - typical range 30m <180m

Digital Signal Processing

The unit has advanced digital signal processing and filtering of audio signals

External Interface

The XSports offers the following signals to allow remote connection to CB radios.

External PTT - Open collector output

Receive incoming communication line - Active low input

Separate Audio Input and Output signals*

* adjusted automatically on connection and disconnection to external equipment, when using the XS Range interface kit, coming soon

Compliance

Meets C-Tick, CE, and FCC compliance requirements

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mechanical

Height	112mm
Width	25mm (max) 22mm (min)
Length	73mm
Weight	180g (typical) 200g (max)



Sturdy belt clip



Rugged plastic housing

Large Push to Transmit button

The product meets the European Union (EU) new directives on electrical and electronic equipment in relation to its composition and the levels to which it should be recycled.

The product complies with the directive restricting the use of six hazardous substances in electrical and electronic products and complies with the Waste Electrical and Electronic Equipment (WEEE) directive, encouraging reuse and recycling.



environmental

Temperature

Charging battery	0 to +45 degrees celsius
Discharging battery	-20 to +60 degrees celsius

Humidity

Maximum humidity	100% condensing
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Intrusion Protection

The unit is designed for an intrusion protection rating of 67

Protection against dust	100%
Protection against immersion	15cm to 100cm (1 hour)



accessories

The following accessories are supported

- 1 Throat microphone and ear piece - mono
- 2 Helmet Kit Stereo - Semi-rigid boom microphone
- 3 Remote wireless Push to Transmit
- 4 Interface module - for connection to communications equipment
- 5 Invehicle 12V DC to 24 V DC charger
- 6 Mains 110 V AC to 250 V AC charger
- 7 USB interface cable and charger



warranties

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Except where mandated by Australian statutory requirements, all PHICOM's standard warranty, testing and other quality control techniques are used to the extent PHICOM deems necessary to support this warranty.

PHICOM assumes no liability for applications assistance or customer support.

Customers are responsible for their products and applications using PHICOM products.

PHICOM products are not authorized for use in safety-critical applications, where a failure of the PHICOM product could reasonably be expected to cause severe personal injury or death, unless agents or representatives of the parties have executed an agreement specifically governing such use.

Further, Buyers must fully indemnify PHICOM and its representatives against any damages arising out of the use of PHICOM products in such safety-critical applications. PHICOM products are neither designed nor intended for use in military applications or environments unless the PHICOM products are specifically designated by PHICOM as military-grade. Only products designated by PHICOM as military-grade meet military specifications.

Buyers acknowledge and agree that any such use of PHICOM products which PHICOM has not designated as military-grade is solely at the Buyer's risk, and that they are solely responsible for compliance with all legal and regulatory requirements in connection with such use.



Powered by ClarinoxBlue



get connected

XSports[®] 2400

wireless communication



User Manual



phicom.[®]

extreme communication

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introduction

1

Congratulations on your purchase of the XSports 2400. Read this document to learn about the features of the XSports 2400, how to use its controls, and apply it to your needs.

XSports 2400

The XSports 2400 is an advanced digital communications product, using leading edge wireless and computer chips to provide you with enhanced audio quality.

Use your XSports 2400 to:

- Communicate with up to 3 (programmable) stored users
- Interface to long haul communications equipment
- Experience clear sound quality
- Full duplex communication
- Enjoy privacy
- Try different filter settings (2)

features

2

- Advanced Digital Signal Processing
- Digital noise filtering
- Noise cancellation
- Low power consumption - extended operation time
- Intrusion Protection rating - 67 (IP67)
- MILSTD 810F
- Virtual Networking
- Interface to PMR Communications products
- Software Upgrade capability
- Audio Annunciation
- Lightweight and Compact Design
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getting started 3

Power Control - 1

A single button press controls either power up or power down. On powering up the unit will flash the red, amber and green LEDs in sequence, and then show a solid amber LED indicating the unit is powering up. Once the unit has completely powered up, there will be an audio tone and the Green LED will flash periodically. Press the power control button again and the unit will turn off.

Volume Control - 2

Volume control is via the volume control button located on the top of the unit. The volume can be either increased or decreased by pressing the plus or minus symbols. When either symbol is pressed and held the volume will be either increased or decreased until the button is released. Single press of the plus or minus will increase or decrease the volume in a single step with each step in the volume a tone will be heard.

Indicators - 3

There are three indicators, red, amber and green. These indicators communicate the status of the battery charger when the unit is switched off and on charge. When the unit is on, the indicators show status and mode of the unit.

Main Connector - 4

The main connector is the single access point to the product providing the following functions:

- Remote push to transmit in and out
- Microphone input
- Mono audio output (differential)
- Stereo audio output (differential)
- Charge input
- USB 2 interface (when optioned)

Function - 5

The function button allows the user to enter and exit Bluetooth programming mode.

Plus - 6

The plus button allows access to special options when supported with software. When the unit is in programming mode this button allows users to be stored to memory.



Note - MP3, USB and MicroSD

not included in the XSports® 2400 model

getting started

Minus - 7

The minus button similar to the plus button allows access to special features of the unit. When the unit is in programming mode, this button allows users to remove a caller from memory.

Throat Microphone Accessory - 8

When not connected to another person, press this button when using a throat microphone for optimum throat microphone settings. This setting is stored automatically, and will be kept until changed.

Headset Accessory - 9

When not connected to another person, press this button when using a headset (Helmet Kit) for optimum settings. This setting is stored automatically, and will be kept until changed.

Filter Selection - 10

There are two types of filters offered as standard with the product. Filter 1, and Filter 2. One (1) beep indicates the first filter setting has been selected (FIR - type) and two (2) beeps indicate the second filter setting has been selected (IIR - type).

- continued

Push to Transmit - 11

The push to transmit button allows, connect, disconnect, accept incoming call waiting and return to MP3 mode.

at a glance

4

Using the XSports 2400 intuitive controls make it easy to talk to other XSports units, disconnect or talk over long distances using the Phicom interface to professional equipment.

To

Turn the unit on or off

Enter programming mode - to search

Enter programming mode - searchable

Enter programming mode - delete user

Exit programming mode

To delete a caller

To store the other party unit ID

To connect to the first user

To connect to the second user

To connect to the third user (or radio)

To disconnect from any caller

To select the throat microphone setting

To select the helmet kit setting

To select filters (toggle between two types)

Do this

press the power button (⊕)

press function (Φ) - (Amber flashing)

press function (Φ) for 1s - (Amber flashing)

click function twice (Φ) - (Green flashing quickly)

press function (Φ) - (Green flashing slowly- MP3 mode)

press (–) (in programming mode - Green flashing)

press (+) (while talking)

a single press on the (ptt)

two presses on the (ptt) button

press and hold the (ptt) button

double click the (ptt) button or remote PTT switch

press the triangle

press the square

press the wavy lines

Modes

5

Modes of operation

There are two basic modes of operation. Standard mode, or default MP3* player or programming mode. On power up the user will hear two tones indicating the unit has powered up correctly, and the green LED will flash periodically. The unit powers up in standard mode or default MP3 player mode for the XSports 2401 only. The indicator lights show the current mode the unit is in.

Standard Mode

When the unit is in Standard mode the green indicator will flash periodically. This mode allows the user MP3 functionality of the Play / Pause, Advance / Forward, and back function keys. These keys control the MP3 player, and allow the user manage the sounds they are listening to.

Programming Mode

To enter programming mode, press the function button. Programming mode is indicated by a flashing amber light. In this mode the user can store other users to memory, and be accepted by other users into their memory.

The programming of users into your memory or “telephone book” is done in concert with others when programming XSport units IDs into memory.

After pressing the function button (5), the unit immediately enters programming mode indicated by a flashing amber light.

Default Mode

Default mode allows the person to listen to their sounds, accept incoming calls, and call others, and disconnect from calls, all with a the control of a single button (PTT or remote PTT).



Programming 6

The programming mode allows users to set up a virtual network to communicate with peers and access long haul radio communication equipment, with a seamless transition. It is the first truly wireless communications network giving users real wireless access to a range of communication gateways, without the need for infrastructure.

The important thing to remember about programming, is that two units must be programmed at the same time. The programming method allows users to ensure they are connected to the correct person, before allocating that person to a memory location.

Programming mode

The programming mode allows the user to store 3 caller ID's from other units.

Storing a single unit

Programming is performed between two units.

Unit 1



Step 1 - Enter Programming mode by pressing the function button - to search.

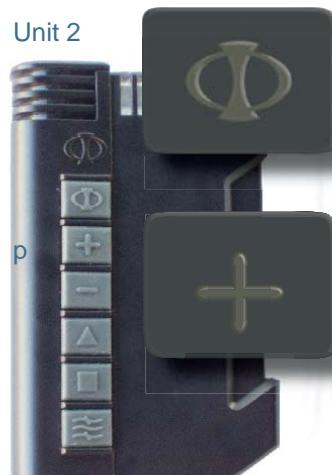
The amber light will flash quickly and a tone will sound in the headset. Once the units have been connected, then the user can either program the other caller ID to memory by pressing the plus key, or disconnect from the call with a double click on the PTT.

Step 2 - A single press of the plus button will store the caller ID to the first memory location.

Alternatively if the other unit is not found then a tone - out tone will be heard.

The second unit, should at the same time as the first unit, enter programming mode by pressing and holding the function button for 1s. Similarly, the amber light will flash on the second unit and a tone will sound in the headset when its in programming mode.

Unit 2



Step 1 - Press the function button for 1s to enter programming mode - to be discovered.

The amber light will flash and a tone will sound in the headset.

Step 2 - When the user has connected to the caller, they can choose to save the caller ID to a memory location. Pressing the plus button once will store the caller to the first memory location.

If the user does not wish to accept the connection, they can simply disconnect by clicking the push to transmit button twice.

Storing to different memory locations

A user may select where to store a caller ID by simply:

- pressing once for the first memory location
- press twice for the second memory location
- press and hold for the remote radio or communications equipment

disconnecting

Disconnecting

To terminate a call with another user, double click on the Push to Transmit button or the remote Push to Transmit button.



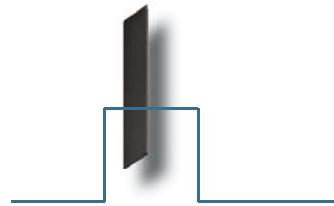
two clicks on the ptt

connecting

Connecting

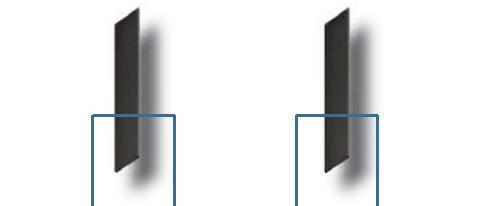
To connect (when not on a call) to a stored user or the remote communications equipment do the following.

Either



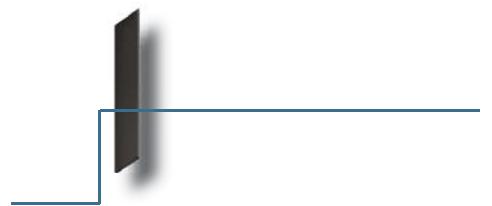
A single press of the ptt button to connect to the first stored caller, the user will hear one beep

Or



Two presses on the ptt button to connect to the second stored caller, the user will hear two beeps

Or



A single press and hold on the ptt to connect to the communications equipment, the user will hear a long beep

Clearing Users

Clearing users from memory

The units supports the removal of users from memory. To remove a user from a memory location perform the following operation.



Step 1 - Double click the function button

The green light will flash quickly and a tone will sound in the headset.



Step 2 - Press the minus:

- i) once for the first location
- ii) twice for the second location
- iii) press and hold for the radio or third location.

On removal of the ID in the memory location, a tone will be heard in the headset.

ptt - operation 7

Push-to-Transmit disconnect

The Push-to-Transmit button is designed to provide quick access to a preferred user and equipment, where the user may toggle between long haul radio equipment or a preferred user, or disconnect from a call.

Using the ptt button on the unit or an external ptt button the user can:

- disconnect from any current call
- connect to a stored user
- connect to remote communications equipment
- return the unit to MP3 mode
- connect directly from MP3 mode to a preferred user
- connect directly from MP3 mode to communications equipment
- accept in comming call

Disconnect from any call

A double click on the push to transmit

Connect to a preferred user

A single press on the push to transmit (for the first stored user) or

two presses on the push to transmit button (for the second stored user)

Connect to communications equipment

A single press and hold

Notification of Second Call Waiting

When a person is either listening to their sounds or on a call and someone is attempting to connect to them, they will hear a beeping in the background. They can stop the beeping by clicking the ptt twice, and continue talking, or disconnect from their current call and then call the second call waiting.

To reject the call waiting - double click on the ptt - this will stop the beeping
To disconnect from the current call - double click on the ptt.

NOTE

To change callers or long haul communications equipment, the current call must be disconnected before making another call.

charging 10

When the unit is off and on charge the red and green indicators show the state of the battery condition.

When the unit is charging, the red will be solid.

When the unit has fully charged, the green light will blink.

When the unit is on and connected to the charger, the indicators indicate the state / mode of the unit.

The user may charge their XSports via the supplied charge plug pack or the USB supplied with the XSports 2401.



battery care 11

With care, you can maximize the battery life (i.e. the time your battery will run before it must be recharged) and lifespan of your XSports's battery.

Your New XSports

Be sure to fully charge your XSports when you plug it in for the first time.

Standard Maintenance

For proper maintenance of a lithium-based battery, it's important to keep the electrons in it moving occasionally. Phicom does not recommend leaving your XSports plugged in all the time for charging.

An ideal use would be a person who uses their XSports in their activity, after which plugs it in to charge. This keeps the battery activity flowing.

Long Term Storage

If you don't plan on using your XSports for more than six months, Phicom recommends that you charge your unit and then store.

specification 12

Electrical

Indicators

Charging - Red LED is on continuously
Fully charged - green LED flashes
Bluetooth mode - Amber LED flashes

Operation Time

Unit operation time (fully charged battery)	
Unit shelf time before charge (off state)	4 months
Unit On - connected (talk time)	4 hours
Unit On - Talk time ratio 20% with 80% standby	8 hours

Audio Out Put

Audio standard out - differential 4 ohm 200mW Stereo / Mono
Audio with adapter - single ended 4 ohm / 8 ohm 100mW

Important Notes - Battery

The battery used in this product is a Lithium Ion cell. For health, safety and environmental considerations, the following is to be observed.

The battery must NOT be

- incinerated
- disposed of with household or industrial refuse

The battery should be

- disposed of at an approved battery recycling centre
- returned to the manufacturer (please see the website for conditions of return)

Mechanical

Height	112mm
Width	25mm (max)
Length	22mm (min)
Weight	73mm
	180g (typical)
	200g (max)

Environmental

Charging battery	0 to +45 degrees celsius
Discharging battery	-20 to +60 degrees celsius
Maximum humidity	100% condensing
Protection against dust	100%
Protection against immersion	15cm to 100cm (1 hour)
The unit meets MIL STD 810F	

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