The HX2040 is a multi-frequency UHF hand-held transmitter for use with all the receivers from the RMS2040, RMS2020, and Envoy ranges. It is also compatible with the older RMS2000 range. It provides 32 switchable frequencies, and is configured entirely by infra-red control using the supplied Switch*iR*. The HX2040 can be used with a range of microphone capsules from the Schoeps™ Colette series, and features a robust ergonomic design with a microphone suspension designed to minimise handling noise.

Controls, displays, and connections

Windshield

Can be unscrewed to access the microphone capsule.

Microphone capsule

Any capsule from the Schoeps™ Colette range can be used with the HX2040 transmitter. There are 18 different capsules available, ranging from a hyper-cardioid to an omni pattern. Many of the capsules are available from Audio Limited.

Identification ring and button

The HX2040 is supplied with six colour identifying rings and buttons to aid recognition in multi-channel use.

Anti-roll ring

An anti-roll ring is fitted to the windshield to prevent the HX2040 from rolling when placed on a flat surface, such as a table.

Infra-red port

Receives commands from and transmits status information back to the SwitchiR infra-red controller.

On/Off button

Switches the transmitter on by pressing the button for one second .

The HX2040 can be switched off by pressing and holding the on/off button for 4 seconds, or by using the Switch*iR*, or by briefly disconnecting the battery
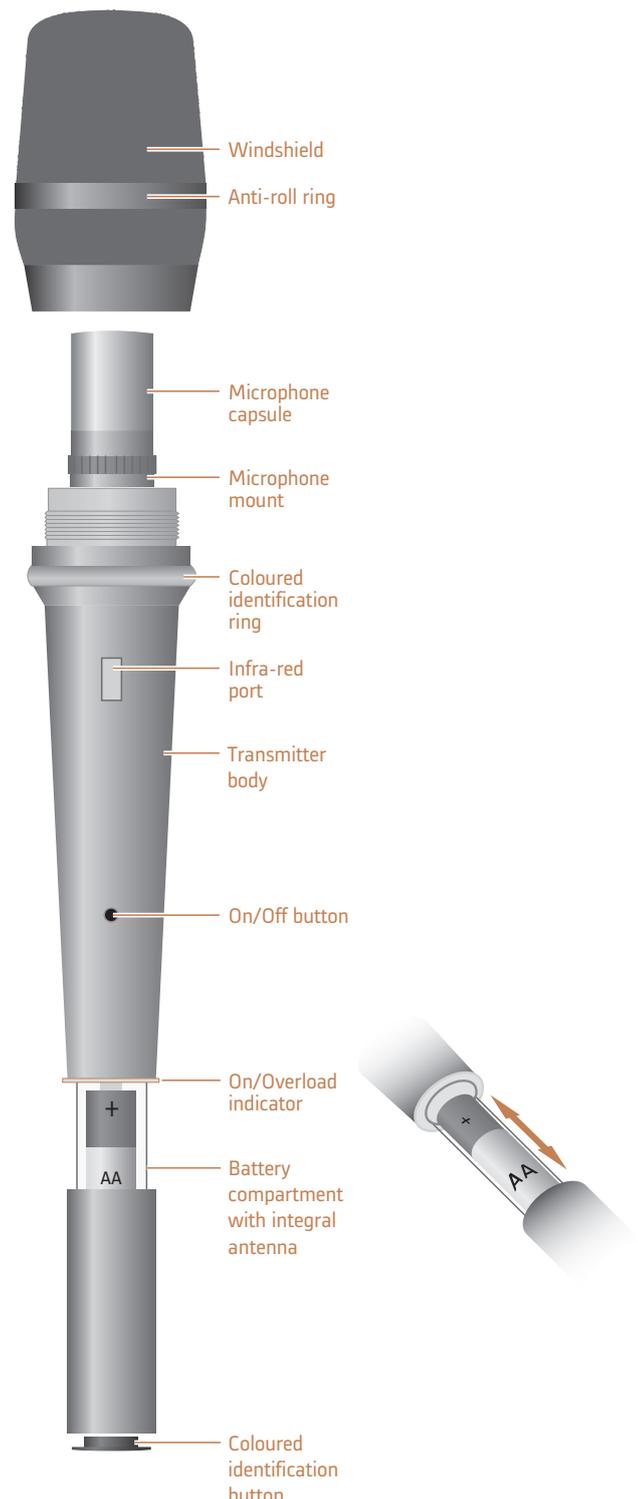
On/Overload indicator

The ring above the battery compartment glows red while the HX2040 is switched on, but will flash off to indicate an overload if the microphone experiences a loud signal.

Battery compartment

Holds one AA 1.5V (LR6 type) alkaline battery.

Antenna

The transmitter antenna is integrated into the battery compartment and therefore no external antenna is required.

Windshield

Anti-roll ring

Microphone capsule

Microphone mount

Coloured identification ring

Infra-red port

Transmitter body

On/Off button

On/Overload indicator

Battery compartment with integral antenna

Coloured identification button

Setting up the HX2040

To set up the HX2040 :

- Fit the battery.
- Switch on by pressing and holding the grey On button below the infra-red port for one second.
- Check or select the operating frequency.
- Check or set the gain.
- Check or set the low frequency cut filter.
- Check the battery status.

These steps are explained below:

Fitting the battery

- Open the battery compartment by gripping the cover and sliding it gently away from the body of the HX2040.
- Fit the battery with the positive terminal uppermost and close the battery cover until it clicks shut.

  Do not twist or turn the battery cover.

Removing the battery

The battery can easily be removed by pushing a small coin into the slot in the compartment beneath the battery.

Switching on

- Press and hold the grey **ON** button below the infra-red port for one second until the ring above the battery compartment glows red.
- To turn HX2040 off press and hold the grey **ON** button for 4 seconds.

  The transmitter can also be switched off using the Switch*iR*, as described below. Alternatively the HX2040 can be switched off by opening the battery compartment and briefly disconnecting the battery.

Selecting the operating frequency

You can check or change the operating frequency of the HX2040 via infra-red control using the Switch*iR*.

To check the frequency:

- Press **MENU**. The display shows:

  FREQUENCY
  Fr
  MHz

- Align the front of the Switch*iR* with the infra-red port on the HX2040 and press **OK**. The display shows the current frequency; for example:

  FREQUENCY
  854.900
  Tx   MHz

To change the frequency:

- Press **OK**. The display will alternately flash between showing the frequency and channel number. For example:

CHANNEL
01

- Press ⋀ or ⋁ to scroll through the 32 frequencies read from the transmitter until the desired frequency or channel is displayed. For example:

CHANNEL
32

- Point the Switch*iR* at the infra-red port on the HX2040 and press **OK**. If the command was received successfully the display will show the new set frequency. For example:

FREQUENCY
857.900
Tx   MHz

Otherwise it will show:

Error

- Repeat the above steps if an error message is displayed, moving the Switch*iR* closer to the infra-red port.

Setting the gain

The steps between 0-9 gain settings are approximately 3 to 4dB. Set the gain position so that the Overload indicator does not flash off during normal operation. A typical setting is 6 or 7.

To check the gain setting:

- Press **MENU** followed by ⋀. The display will indicate:

AF LEVEL
AF
TxRx

- Align the front of the Switch*iR* with the infra-red port of the HX2040 and press **OK**. The display will show the current transmitter gain setting:

AF LEVEL
0
Tx

To change the gain setting:

- Press **OK** again. The display will flash the level setting.
- Press a or v to step between gain settings 0-9 until the required gain setting is displayed. For example:

AF LEVEL
7
Tx

- Align the front of the Switch*iR* with the infra-red port on the transmitter and press **OK**. If the command was received correctly the display will show the new gain setting. For example:

AF LEVEL
7
Tx

Otherwise the display shows:

Error

- Repeat the previous steps if an error message is displayed, moving the Switch*iR* closer to the infra-red port.

Setting the low frequency cut filter

The LF cut filter gives an approximately 10dB cut at 50Hz to reduce handling and wind noise.

To check the status of the low frequency cut filter:

- Press **MENU**
- Press ⋀ twice until the display shows:

LF Cut
Tx

- Align the front of the Switch*iR* with the infra-red port on the transmitter and press **OK**. The current LF cut filter setting is displayed; for example:

OFF
Tx

To change the filter setting:

- Press **OK** again. The current setting will flash.
- Press ⋀ or ⋁ to toggle between ON or OFF until the required setting is displayed.
- Align the front of the Switch*iR* with the infra-red port on the transmitter and press **OK**. If the command was received successfully the new setting will be displayed. For example:

On
Tx

Otherwise the display will show:

Error
Tx

- Repeat the previous steps if an error message is displayed, moving the Switch*iR* closer to the infra-red port.

Checking the battery status

- Press **MENU**.
- Press ⋀ three times until the display shows:

BAtt
TxRx

- Align the front of the Switch*iR* with the infra-red port on the transmitter and press **OK**. The display will show the current battery status:

1.25v
Tx

The battery level can also be checked from the receiver; see the appropriate instructions for the receiver.

Infra-red disable

You can protect the HX2040 from an accidental change of settings, such as in a live performance, by disabling the infra-red port on the transmitter. This will prevent all communication to the transmitter until the battery is disconnected and reconnected.

Disabling the infra-red port

- Press **MENU**.
- Press ⋀ twice. The display will show:

dISABLE
TxRx

Ir   ?
TxRx

- Align the front of the Switch*iR* with the infra-red port on the transmitter and press **OK**. If the command was received successfully the display will show:

Ir OFF
Tx

Note: Once the infra-red port has been disabled, any subsequent interrogation of the transmitter will give an Error display; this is not a fault.

Fitting the microphone capsule

The HX2040 transmitter uses high quality interchangeable condensor capsules from the Schoeps™ Colette range. The HX2040 is compatible with the full range of capsules and accessories in this range.

The capsule mounting has a unique gel-based suspension to minimise handling noise.

To fit a capsule

- Unscrew the metal windscreen from the top of the transmitter.
- Screw the capsule into place taking care not to cross-thread the capsule or over-tighten it.
- Replace the windscreen.

Holding the HX2040

The HX2040 should be held above the illuminated On/Overload indicator ring. This will enable maximum power to be radiated from the integral antenna in the battery compartment. Holding the HX2040 over the battery compartment will impair the range of the transmitter and should be avoided.

The frequency, gain, and LF status setting will be retained even if the battery is removed from the transmitter.

An external foam windshield is available from Audio Limited.

Technical specification

Frequency range	470MHz–1000MHz
Number of frequencies	32 pre-programmed
Switching range	Up to 24MHz
Output power	10mW nominal
Gain control range	30dB in 10 steps
Frequency response	50Hz to 18kHz ±1dB excluding capsule
THD	<0.2% typical
Battery	1.5V AA cell (IEC LR6) Alkaline
Battery life	Typically 5 hours with an alkaline battery
Available capsules	A02S bright omni AC4 cardioid AC4A cardioid for vocal use and others from Schoeps™ Colette range
Indicators	Red LED for on; LED off indicates overload
Other	Specially designed suspension minimises handling noise
Length	260mm including windshield
Diameter	44/36mm reducing to 22mm at base
Weight	185g
Operating temperature	-20°C to +55°C range
Compliant to	R&TTE Directive FCC

EC Declaration of Conformity

**Déclaration de conformité pour la CEE. EG-Konformitäts-Erklärung. Certificato di conformitá comunitario
Declaración de Conformidad. EG-Conformiteitsverklaring**

AUDIO LIMITED. Audio House, Progress Road High, Wycombe, HP12 4JD, U.K.

declare that these devices / déclarons que ces appareils / erklären, dass die Produkte / declaramos que estos aparatos / dichiaria che questi apparecchi / verklaren, dat deze toestelen

HX2040 Handheld Transmitter

conform to the essential requirements of the R&TTE Directive 1999/5/EC. To demonstrate compliance with these requirements, the following standards were consulted:

sont conformes aux prescriptions fondamentales dan la Directive R&TTE 1999/5/EC. Pour mettre en pratique dans la règle de l'art les prescriptions,il a été tenu compte des normes suivantes:

den einschlägigen Anforderungen der R&TTE-Direktive 1999/5/EC entsprechen. Zur sachgemäßen Umsetzung der in den EG-Richtlinien genannten Anforderungen wurden folgende Norman herangezogen:

complen los requimientos básicos de la normativa de la normativa R&TTE 1999/5/EC. Con il fin de realizar de forma adecuada los requirimientos referidos en la normativa fueron consaltadas las siguientes normativas:

sono conformi alla normativa R&TTE 1999/5/EC. Per un'appropriato risconto nell'ambito della normativa CEE sono state consultate le seguenti normative:

evereenkomt met de basiseisen van de EG-Richtlijn 1999/5/EC. Om de eisen, die in de EG-Richtlijnen vermeld zijn, in juiste vorm om te zetten, zijn van volgende normen gebruik gemaakt:

Article 3.1a: EN 60065:2002 (Safety of Electrical Equipment)

Article 3.1b: EN 301 489-9:2002 (Electromagnetic Compatibility)

Article 3.2: EN 300 422-2:2000 (Radio Parameters)

Conformity assessed via Annex IV using a Technical Construction. File examined by Notified Body 0891, TRL Compliance Services Ltd.
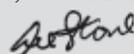
Lee Stone, Technical Director. May 2004

For further information contact Audio Ltd or your local distributor

www.audioltd.com