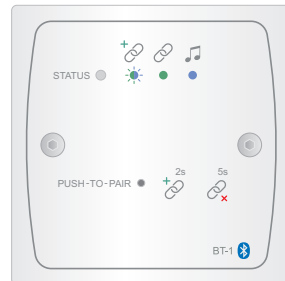


BT-I SERIES

BLUETOOTH WIRELESS AUDIO MODULE

BT-I: UK version



BT-I: US version



* black modules also available.

General Description

The BT-I Series is a range of remote, wall-mounting input modules for use with Cloud products fitted with an RJ45 Facility Port or an RJ45 Extension Port. The BT-I enables compatible portable devices such as laptops, tablets and smartphones to stream audio wirelessly to the interface, and thus into the audio system of the Zone where the interface is installed.

Two primary variants of the BT-I are available: the BT-IF, suitable for use with host units fitted with one or more Facility Ports, and the BT-IE, suitable for use with host units fitted with one or more Extension Ports. The BT-IF will route an (L+R) mono sum of the streamed audio to the host unit; the BT-IE routes the audio in stereo.

Variant BT-IF may be used with the following Cloud products, which are fitted with RJ45 Facility Port(s):

- Z4MK4 and Z8MK4 Zone Mixers
- Z4MK3 and Z8MK3 Zone Mixers
- 46-I20 and 46-I20MEDIA Zone Mixing Amplifiers
- MA40F, MA40T and MA40E Mini Amplifiers
- MA80FT and MA80E Mini Amplifiers

Variant BT-IE may be used with the following Cloud products, which are fitted with RJ45 Extension Port(s):

- DCM1 Digital Control Zone Mixer
- DCM1e Ethernet Digital Control Zone Mixer

(See separate datasheets for details of all the above host units.)

Once installed, normal operation permits users within range to initiate a wireless connection from their device to the BT-I using Bluetooth pairing mode. This requires a recessed push-button on the module to be depressed and confirmation of connection to be made on their device within a 30 second timeout period. A “first-come,

first-served” protocol is employed, ensuring that any further devices cannot inadvertently connect as well: the currently-connected device must disconnect before a further device can establish a connection.

For sites where multiple BT-Is are installed, individual module identifiers may be set using rear panel dipswitches; this ensures that users will connect to the correct module. As a further safeguard against unwanted “inter-room” activity, the module’s RF signal strength may be set during installation to be one of eight preset levels, also by rear panel dipswitches.

An alternative “non-secured” operating mode may be selected with a further dipswitch; in this mode, the module will freely connect to any available device without the use of the pairing button.

Apart from the recessed pairing push-button, the only faceplate component is a bicolour LED which confirms the progress of the pairing process, establishment of a valid connection, and when data streaming is in progress.

The BT-I requires a single wired connection to the host unit’s rear panel Facility Port (BT-IF) or Extension Port (BT-IE), using screened Cat 5 cable and screened RJ-45 connectors. Cable runs of up to 100 m should be satisfactory.

The BT-I is available in two form factors to suit either standard UK single-gang or US single-gang electrical back boxes; US-size modules are denoted by a suffix ‘A’ to the Part No. All versions are also available in white (further suffix ‘W’) or black (suffix ‘B’) finish.

The BT-I is compliant with the following EMC directives:
EN 301 489-17 V2.1.1,
EN 300 328 V1.8.1,
EN 60950-1:2006+A11:2009+A1:2010+A12:2011.

BT-I key features

- Remote Bluetooth input module for Cloud host units with an RJ45 Facility Port or Extension Port
- Easy connection to host unit via screened Cat 5 cable (up to 100 m)
- Uses single-button Bluetooth “pairing” mode for secured operation
- Alternative “unsecured” mode: configurable at installation
- Each module may have one of 16 unique identifiers to differentiate receivers in areas where multiple modules are installed
- RF power level adjustment to minimise risk of accidental inter-room connection
- Bicolour LED indicates connection progress and streaming activity
- May be chained to remote input modules (e.g., LM-2) in same Zone
- RSL-6 or RL-I remote plates may be chained to BT-I (BT-IF only)

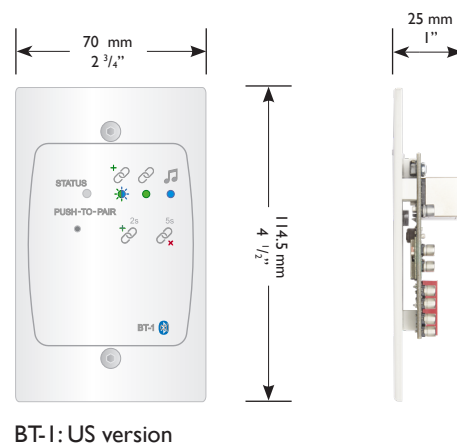
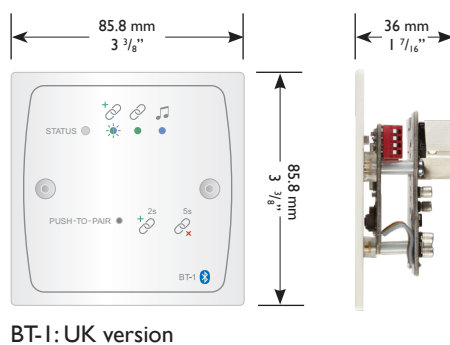
Versions

Eight versions of the BT-I are available; each of the two primary variants (BT-IF and BT-IE) may be ordered in UK or US format, and in black or white. Part numbers are:

- BT-IFW – for host units with a Facility Port, fits UK back boxes, white finish
- BT-IFB – for host units with a Facility Port, fits UK back boxes, black finish
- BT-IEW – for host units with an Extension Port, fits UK back boxes, white finish
- BT-IEB – for host units with an Extension Port, fits UK back boxes, black finish
- BT-IAFW – for host units with a Facility Port, fits US back boxes, white finish
- BT-IAEW – for host units with an Extension Port, fits US back boxes, white finish
- BT-IAFB – for host units with a Facility Port, fits US back boxes, black finish
- BT-IAEB – for host units with an Extension Port, fits US back boxes, black finish

All versions require a back box depth of 35 mm minimum.

Dimensions



Connections

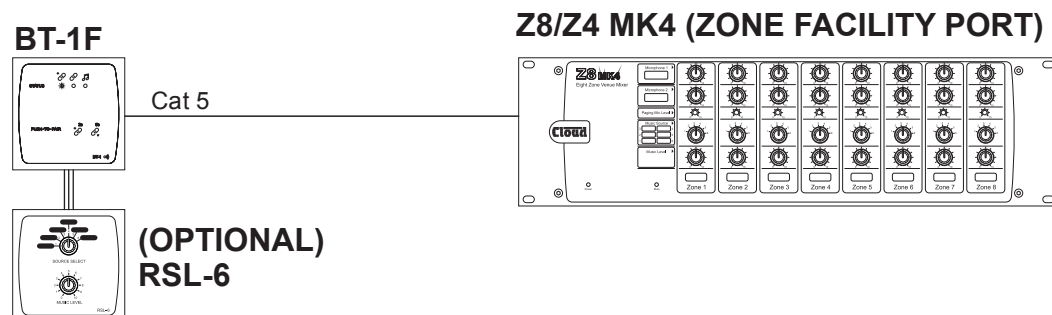
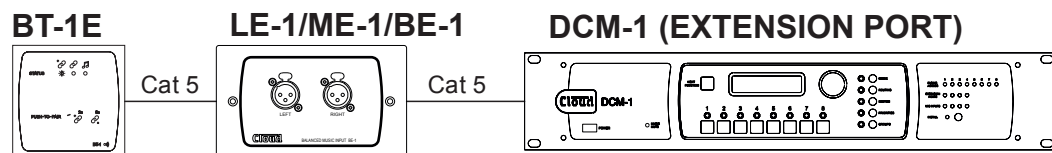
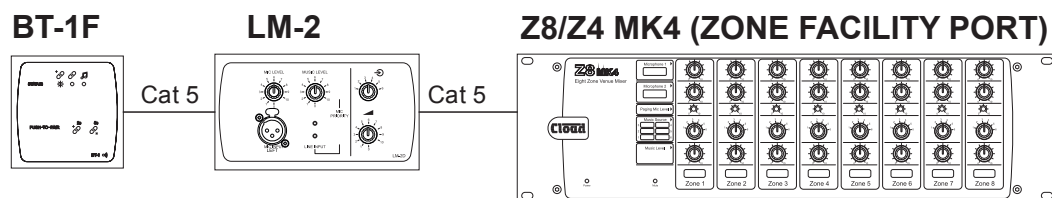
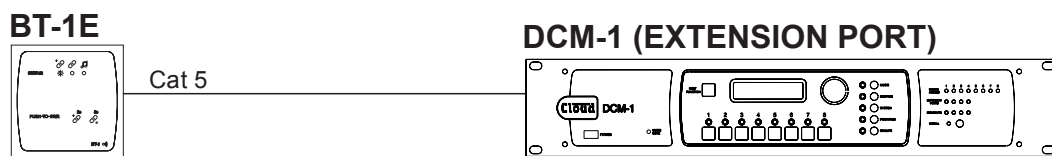
The BT-I is exceptionally simple to install; the rear RJ45 connector is wired to one of the host unit's Facility Ports or Extension Ports with a single screened Cat 5 cable using standard shielded RJ45 connectors at each end. The Cat 5 cable carries DC power as well as balanced audio. See diagram (a) below.

Each Facility Port on a host unit is associated with a particular Zone, and a BT-I connected to a particular port will provide an audio signal to that Zone only. The DCM1/DCM1e's Extension Ports are essentially alternative music inputs, and each may be routed to any Zone using the menu system.

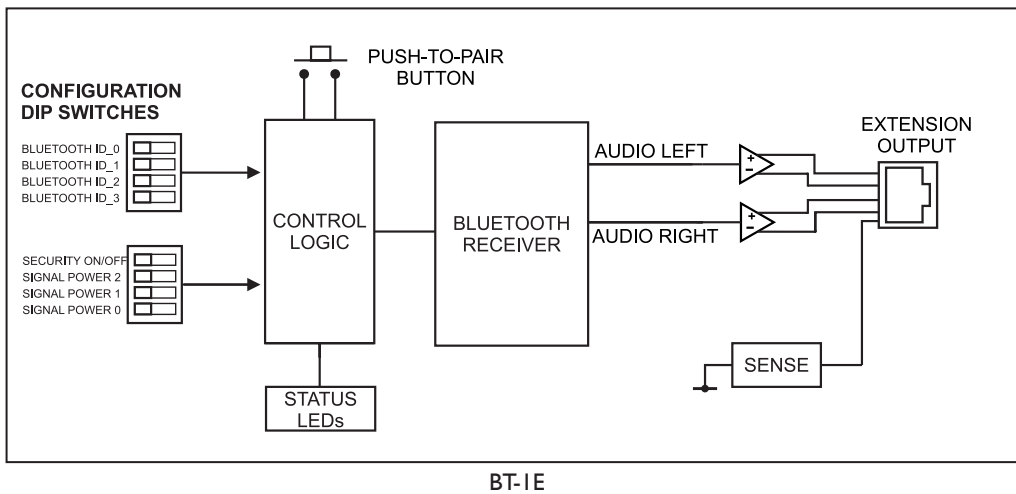
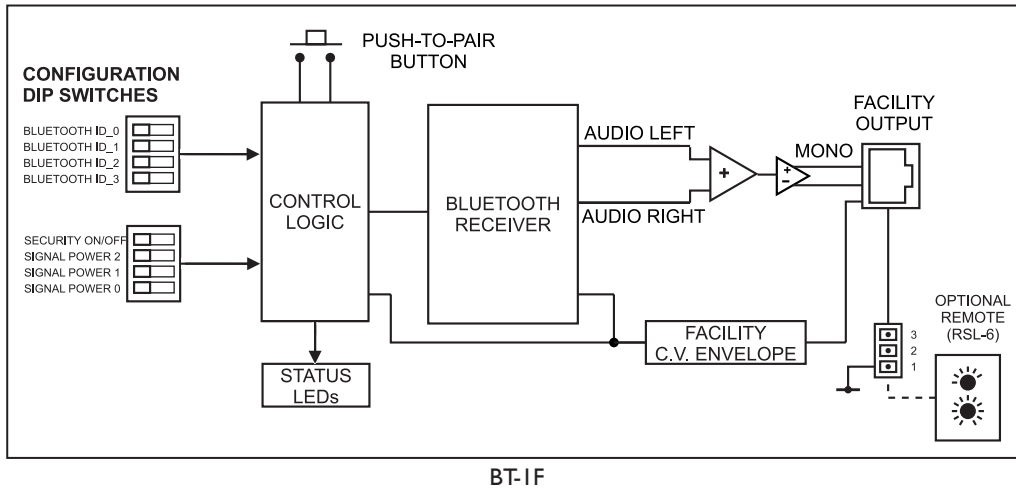
If a Zone also requires a Cloud LM-2 remote input/control module, the BT-IF may be connected to the LINK connector on these in a "daisy-chain" manner to facilitate wiring; see diagram (b) below. Similarly, if a DCM1/DCM1e installation requires a remote input module (LE-1 or BE-1), the BT-IE may be daisy-chained to the LINK connector on the input module: see diagram (c) below.

The BT-IF variants have an additional 3-pin rear connector, allowing a Cloud RL-1 or RSL-6 remote control plate to be "daisy-chained" to the BT-IF. This is possible because host devices with which the BT-IF is compatible provide remote music level control and source selection via the Facility Port. See diagram (d) below.

The BT-I is powered from the host unit to which it is connected, and it draws 22-60 mA (supply voltage dependent). In the vast majority of installations, the host unit will have ample spare power capacity for several BT-I's. Full details are provided in the host unit's documentation.



Block Diagrams



Architect's and Engineer's Specification

An optional remote audio input module shall be available for Cloud Zone Mixers, Zone Mixing Amplifiers and Mini Amplifiers which is capable of making a wireless connection to compatible Bluetooth-equipped devices, and to stream audio from them. The module shall be available in different versions to suit the host unit's connectivity.

The module shall be provided with an RJ45 connector to permit connection either to the host unit or to another compatible accessory which is itself connected to the host unit. Wiring shall be screened Category 5 data cable. The module shall be capable of routing audio in stereo to those host devices capable of supporting a stereo input and a mono sum to those that do not.

The remote module shall establish a wireless connection to a compatible device within a timeout period of 30 seconds following the depression of a recessed switch. Visual indication shall be provided on the module faceplate of a successful connection. It shall not be possible for any other compatible device to establish a connection if a device has already done so. Visual indication shall be provided on the module faceplate of data streaming activity.

It shall be possible to modify the module's operation in a number of ways by switches inaccessible to the user. These modifications shall include:

- i) a "non-secure" mode of operation which permits a compatible device to establish connection without the use of the recessed switch.
- ii) the ability to assign a panel a specific ident number; this number will appear on the screen of the connecting device. At least 16 idents shall be provided.
- iii) it shall be possible to adjust the RF power of the module to one of at least 7 levels to control the operational range.

It shall be possible to connect standard Cloud remote control plates to the remote modules; the plates will perform their normal functions at the host unit without further connection.

The remote module shall be available in versions suitable for fitment in standard UK or US electrical back boxes. The modules shall be available in a choice of finishes.

The remote modules shall be the Cloud BT-IEW and BT-IFW (UK versions, white finish), the Cloud BT-IEB and BT-IFB (UK versions, black finish), the Cloud BT-IAEW and BT-IAFW (US versions, white finish), the Cloud BT-IAEB and BT-IAFB (US versions, black finish).