



 BLUETOOTH

BLT 200

dual Bluetooth interface

OWNER'S MANUAL

Index of contents

1 OVERVIEW.....	3
2 CONNECTIONS.....	3
2.1 MODE A: CONNECTING TO SOLIDYNE'S BROADCASTING CONSOLES.....	3
2.2 MODE B: ONE-CHANNEL CONNECTION FOR ALL SOUND MIXERS.....	4
2.3 MODE C: TWO-CHANNELS CONNECTION FOR ALL SOUND MIXERS.....	4
2.4 MODE D: DOUBLE BLT200 (4 cellphones).....	5
2.5 CONFERENCES.....	5
3 PAIRING A CELL PHONE.....	5
3.1 OVERVIEW.....	5
3.2 PAIR A CELL PHONE WITH BLT200.....	6
3.3 RE-CONNECT A CELL PHONE PREVIOUSLY PAIRED.....	6
3.4 ADJUST THE VOLUME.....	7
3.5 TURN OFF BLUETOOTH ON BLT200.....	7
4 ON AIR.....	7
4.1 INCOMING CALL.....	7
4.2 TO MAKE A CALL ON THE MOBILE PHONE.....	8
5 TECHNICAL SPECIFICATIONS.....	8

About this user's manual

Last revision, April 2024

Solidyne® All rights reserved. No part of this manual may be reproduced, copied, or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without permission in writing from the publisher.

Packing List

Upon unpacking the unit, we advise conducting a visual inspection to ensure that the equipment has not been damaged during transportation.

When purchasing BLT200, you will receive the following items:

- 1 Solidyne BLT200 Interface
- 1 Switched power supply 110/220VAC – 12VDC
- 1 Stereo Plug-Plug cable (TRS ¼) 1.8 meters
- 1 "Y" splitter cable Stereo Plug (TRS ¼) to 2 Mono Plug (TS ¼) 1.8 meters
- Printed user manual
- Warranty certificate

1 OVERVIEW

Solidyne BLT200 is a Bluetooth interface that allows linking up to two mobile phones to an audio console. It can be used with consoles of any type, from consoles designed for broadcasting to conventional audio consoles. Only a mix-minus send or an auxiliary mix bus is required to establish the connection.

2 CONNECTIONS

The unit is powered by a standard 12V/1.25A switched-mode power supply provided from the factory.

The connection panel features two 1/4" TRS jacks which provide (varies depending on configuration):

- The input connector (AUDIO IN) receives the audio sent to the mobile phones (the signal that hears the person on the other end of the line).
- The output connector (AUDIO OUT) delivers the incoming signal from the mobile phones (the voice of the person on the other end of the line).



Image 1: BLT200 – connections side

Additionally, the BLT200 allows configuring the signals on the input/output connectors in different modes to configure multiple setups to broadcasting consoles and standard audio consoles.

These variants are configured using six micro-switches detailed on the panel's silkscreen, as seen in Image 1. The following table shows the action of each switch. Switches set downward connect (ON), while switches set upward disconnect (OFF).

DSW 1	The output sends "B" on ring (TIP: A RING: B)
DSW 2	The output sends the mix A+B on TIP (TIP: A+B RING: NC)
DSW 3	Not connected
DSW 4	Enables the conference from B to A
DSW 5	Enables the conference from A to B
DSW 6	Sends the TIP of AUDIO OUT to the RING of AUDIO IN

2.1 MODE A: CONNECTING TO SOLIDYNE'S BROADCASTING CONSOLES

The line of Solidyne compact consoles, including DX816/822, D612, and all models from Series 2300 and 2600, feature a dedicated connection for "EXTERNAL HYBRID", which eliminates the need for line channels and mix-minus sends.



DSW 2 & 6: ON
 DSW 4 & 5: ON (conference)
 DSW 1 & 3 OFF



TIP: AUDIO IN
 RING: AUDIO OUT (A+B MIX)



Image 2: Connection to a Solidyne DX816

BLT200 OUTPUT: Not connected.

BLT200 INPUT: The AUDIO IN connector becomes an input/output. BLT200 is connected using one plug-plug cable (TRS) supplied from the factory.

- The TIP receives the console signal. The IN GAIN preset adjusts the level of the incoming signal.
- The RING sends the A+B mix to the console.

AT THE CONSOLE: The sum of the A+B channels from the BLT200 is routed directly to the hybrid section. When both BLT200 lines are on-air in a conference, the mix is set from the level knobs on the BLT200 front panel. Conference against the internal hybrid of the console is also supported. The operator can speak with the lines in the same way as operating the internal hybrid of the console (refer to the user's manual).

2.2 MODE B: ONE-CHANNEL CONNECTION FOR ALL SOUND MIXERS



DSW 2: ON
 DSW 4 & 5: ON (conference)
 DSW 1, 3 & 6 OFF

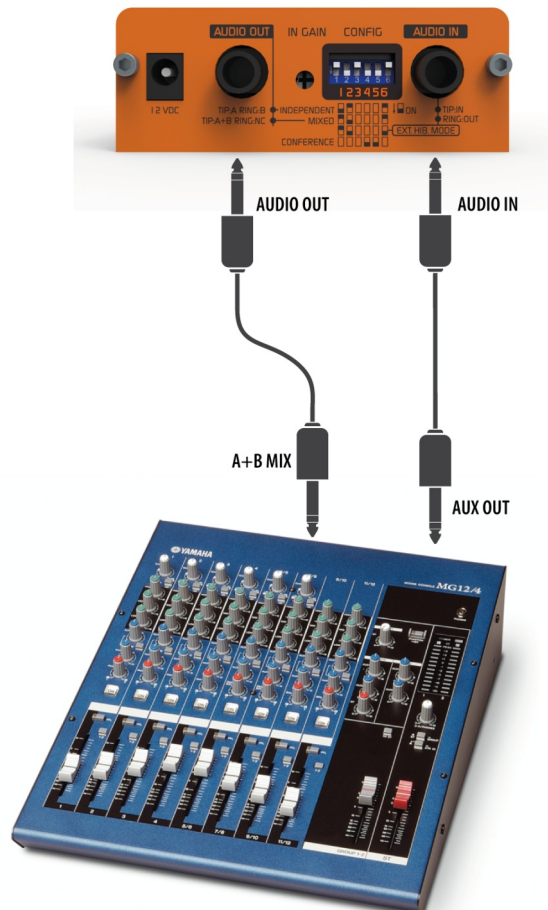


Image 3: Connections to Yamaha MG12/4

BLT200 OUTPUT: The TIP provides the mix of the Bluetooth signals CEL-A and CEL-B. The RING is unconnected. The output can be connected using the "Y" splitter cable supplied from the factory (TRS to 2xTS) by connecting the TS plug that corresponds to the TIP of the TRS to AUDIO OUT, leaving the other plug unconnected. Alternatively, a simple TRS-TRS ¼" cable can be used.

BLT200 INPUT: It receives the signal through the TIP. It is connected to an auxiliary console output using the "stereo" plug-plug cable (TRS) supplied with the unit.

WARNING!

Make sure that DSW 6 is in the position OFF. Otherwise the BLT200 output will be connected to the mixer's output.

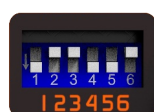
AT THE MIXER: An auxiliary mix bus is required to generate the signal sent to BLT200 (that is, the return that the person on the other end of the line will

hear). This mix includes the local microphones, but the Bluetooth signal CEL-A + CEL-B from BLT200, should not be added to the auxiliary mix to avoid feedback loops.

For the case of conferences between the two cell phones, the mix balance is adjusted using the knobs A and B located on the front of BLT200.

The operator can communicate with cell phones A or B by activating pre-fader listen (or cue) on the console channel and speaking from a microphone assigned to the auxiliary bus.

2.3 MODE C: TWO-CHANNELS CONNECTION FOR ALL SOUND MIXERS



DSW 1: ON
 DSW 4 & 5: ON (conference)
 DSW 2, 3 & 6: OFF



Image 4: Concretion to a mixer Presonus AR22

BLT200 OUTPUT: It delivers Bluetooth signals A and Bluetooth B through the TIP and RING, respec-

tively. It is connected to two console inputs using the "Y" splitter cable supplied from the factory.

BLT200 INPUT: It receives the signal through the TIP. It is connected to a mixer output using the plug-plug cable (TRS) supplied from the factory.

WARNING
Make sure that DSW 6 is in the position OFF. Otherwise the BLT200 output will be connected to the mixer's output.

AT THE MIXER: An auxiliary mix bus is required to generate the signal sent to the BLT200 (the return that the person on the other end of the line will hear). This mix includes the local microphones, but the CEL-A and CEL-B lines from BLT200 should not be added to the auxiliary mix to avoid feedback loops.

The operator can communicate privately with phones A or B by activating pre-fader listen (PFL) on the console channel and speaking from a microphone assigned to the auxiliary mix.

2.4 MODE D: DOUBLE BLT200 (4 cellphones)

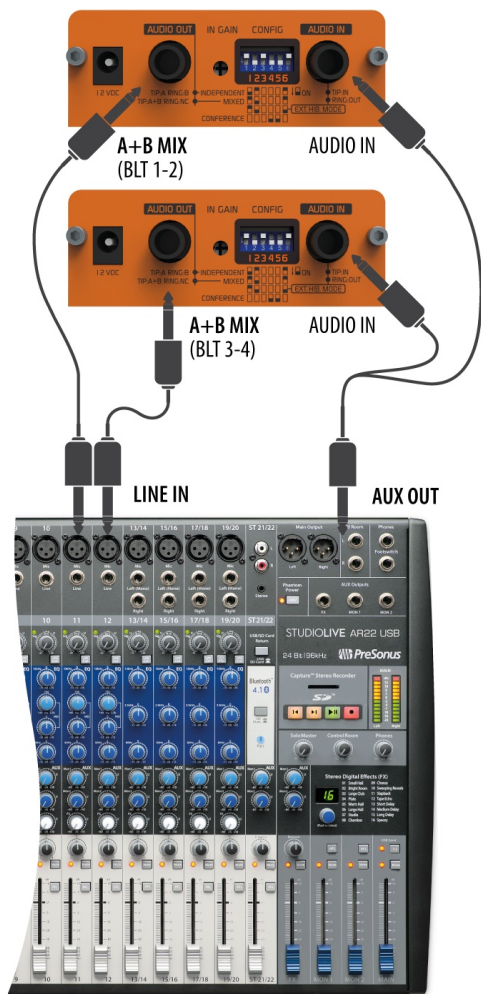


Image 5: Double BLT200 to two channels

In the following setup, two BLT200 units are used, connected to two channels of the console, to handle four mobile phones. Both BLT200 units are configured to deliver the summed A+B channels (see MODE B).

The **outputs** of the BLT200 units are connected to two inputs on the console using the supplied TRS-TRS cables.

The **inputs** of the BLT200 units are connected to an AUXILIARY mix output on the console using the supplied splitter cable (TRS to two TS).

WARNING
Make sure that DSW 6 is in the position OFF. Otherwise, the BLT200 output will short-circuit (the AUDIO IN ring is grounded through the mono plug), resulting in no audio.

2.5 CONFERENCES

The conference activates an internal cross-return, allowing two lines to be on air simultaneously, enabling the phones to hear each other. In the previously seen usage scenarios, the conference is enabled.



DSW 4 & 5: ON (with conference)
DSW 4 & 5: OFF (without conference)

To disable the conference, turn off dip-switches 4 and 5. When the conference is disabled, phones A and B can be on air simultaneously, but they will not hear each other.

3 PAIRING A CELL PHONE

3.1 OVERVIEW

Any mobile phone can be paired to BLT200 via Bluetooth. BLT200 has two Bluetooth devices or "channels" called A and B.



The rotary knobs adjust the output level for each Bluetooth device. On the mobile phone, the volume should be adjusted to maximum (see below).

The CONTROL A and CONTROL B buttons are illuminated and flash at different rates depending on the Bluetooth status.

BLUETOOTH BUTTON FLASHING MODES		
A	CELL PHONE CONNECTED	Short flashing (1s) in yellow with long off (2s) = Indicates it is connected to the cellphone without an ongoing call at that moment.
B	CELL PHONE DISCONNECTED ACTIVE CALLING	Slow flashing (2s) in yellow with short off (1s) = indicates an ongoing call. Upon ending the call, it returns to mode "A". It also indicates Bluetooth is on without a mobile phone connected. When a phone is connected, it switches to mode "A".
C	PAIRING MODE	Fast flashing in yellow. This mode allows a phone to find and pair with the BLT200.
D	INCOMING CALL	Continuous blue light.

There are three actions that should not be confused when working with Bluetooth:

ENABLE/DISABLE BLUETOOTH ON THE CELL PHONE

It refers to whether Bluetooth is turned on or off on the phone.

PAIR THE CELL PHONE WITH A BLUETOOTH DEVICE

It refers to the process where the mobile device finds and registers an external Bluetooth device (for example, headphones, the car audio system, or a BLT200 channel). This procedure is performed only once for each device. Once paired, the device can be unpaired, which means the phone "forgets" it, and the pairing process must be repeated to connect it again.

CONNECT/DISCONNECT A BLUETOOTH DEVICE TO THE CELL PHONE:

It refers to the action where the phone connects to a previously paired device. The action of connecting/disconnecting should not be confused with the action of pairing/unpairing.

When the mobile phone has Bluetooth enabled, it can easily connect and disconnect from different Bluetooth devices by simply selecting the device from the list of previously paired devices (if there are Bluetooth devices present that have not been paired, they will not appear in this list).

3.2 PAIR A CELL PHONE WITH BLT200

To pair a Bluetooth channel with a mobile phone, a very similar procedure is followed to that used for pairing other Bluetooth devices, such as speakers or hands-free kits.

1. **On BLT200:** Verify that the Bluetooth channel you want to pair (A or B) is turned off (CONTROL button not illuminated). When Bluetooth is on, the button flashes slowly intermittently (modes A or B). If it is on, press and hold the button until the LED turns off completely.

2. **On BLT200:** Activate pairing mode (this mode can only be accessed starting from Bluetooth off). Press and hold the CONTROL button (approximately 8 seconds). After a few seconds, you will see the yellow light flashing slowly (mode B), and later the flashing becomes fast (mode C). Release the button only then. The continuous flashing indicates that pairing mode has been activated, and it is ready to be found by the mobile phone.
3. **On the cell phone:** Turn on Bluetooth and perform a search for new devices. The procedure varies depending on the make and model of the phone (if in doubt, refer to the phone's documentation).
4. The Bluetooth channels A and B of BLT200 will appear on the mobile phone as **Solidyne BLT-A** and **BLT-B** respectively.
5. Select the **Solidyne BLT-A/BLT-B** device as appropriate to connect it.

BLUETOOTH DEVICE NAMING

On the phone, it's possible to change the default name "Solidyne BLT-A" (or BLT-B) by accessing the Bluetooth device settings. This is necessary to differentiate channels A and B when using two BLT200 units.

Once the devices are paired, the CONTROL button continues to flash slowly intermittently (mode A), indicating that Bluetooth is active.

It is not necessary to repeat this operation while using the same phone on that channel. To pair another mobile phone, or pair the same phone to the other channel, repeat the procedure.

IMPORTANT

A single mobile phone can be paired with both channels of the BLT200, but it can only be connected to one channel at a time.

Multiple mobile phones can be paired with the same Bluetooth channel, but two mobile phones cannot be connected simultaneously to the same channel.

DISTANCE TO CELL PHONE

While the mobile phone can be up to 3 meters away, it is recommended to keep it nearby, but never directly on the BLT200 interface.

3.3 RE-CONNECT A CELL PHONE PREVIOUSLY PAIRED

Just like with any conventional Bluetooth device, the mobile phone will "disconnect" from the BLT200 in the following cases:

- Disabling Bluetooth on the phone. Typically, this action does not end an ongoing call; it transfers it to the phone. However, this may

vary depending on each brand and model. Re-connection is restored when Bluetooth is turned on on the phone. In some cases, re-connection is automatic. In others, it will be necessary to choose the SOLIDYNE device again from a list. If the call was not interrupted, upon reconnection, it will return to BLT200.

- When a call is in progress and the phone disconnects from the Bluetooth device/channel, the call is transferred to the phone. If it reconnects to Bluetooth, the call returns to BLT200.
- When during an ongoing call, the "Speakerphone" mode is activated, this action also removes the call from BLT200 and transfers it to the phone. If Bluetooth is reconnected, the call returns to BLT200.
- If the Bluetooth channel on BLT200 is turned off.

In any case, re-connection will not be possible if the same Bluetooth channel on BLT200 was paired with another phone and it is now connected.

3.4 ADJUST THE VOLUME

IMPORTANT

On the phone, the **Bluetooth volume should be adjusted to the maximum** for proper reception and to ensure the best signal-to-noise ratio.

This adjustment should be made by placing a call via Bluetooth. The volume of the phone's speaker is independent of the Bluetooth mode. If you adjust the volume without establishing a Bluetooth call, it only changes the speaker volume, not the Bluetooth volume. The Bluetooth volume is stored on the phone. If you pair a new phone, make sure to readjust the Bluetooth level to maximum on the phone.

3.5 TURN OFF BLUETOOTH ON BLT200

To turn off a Bluetooth channel, hold down the CONTROL button until it stops flashing.

4 ON AIR

The following guidelines outline the procedure to obtain audio from mobile phones on the audio output of BLT200. Putting the signal on-air will depend on the broadcast console, and the procedure may vary depending on the connection scheme used.

1. **On BLT200:** Turn on a Bluetooth channel by pressing and holding the CONTROL button (A or B) until the button lights up (approximately 5 secs). The button remains flashing slowly intermittently indicating that Bluetooth is active.
2. **Activate Bluetooth on the mobile phone.** The phone must have been previously paired with that channel of BLT200. When Bluetooth is activated, the pairing is restored, and the phone is connected to BLT200 within a few seconds.

4.1 INCOMING CALL

1. **When a call comes in:** If Bluetooth is activated on the mobile phone, the corresponding CONTROL button lights up in blue (mode D). The call can be answered directly from BLT200 with a short press on the CONTROL button, or from the phone's screen.

Some mobile phones released before 2020 do not support answering calls from the Bluetooth interface when calls originate using applications (such as WhatsApp, Skype, Hangouts, among others). In this case, calls can only be answered from the phone's screen.

2. If Bluetooth on the mobile phone is off, answer the call from the mobile phone, then activate the Bluetooth on the mobile to transfer the call to BLT200. Once the call is transferred, the mobile phone receives audio from BLT200.
3. Private communication with the line can be made through the talk-back circuit established on the console. This will vary depending on the connection's set up.
4. The call will be put on-air from the console channel. Each Bluetooth channel of BLT200 has its own level adjustment. This level should be adjusted for optimal working level at the console input.
5. Communication can be ended with a short press on the CONTROL button or directly from the phone.
6. It is also possible to resume the call on the mobile phone by switching it from Bluetooth/Headset mode to Speaker mode.

Below is an example of an Android mobile phone. In this example, "Headset" transfers the call to the Bluetooth device (usually a hands-free device) when it is turned on, or returns it to the mobile phone when it is turned off.

Other models and versions may display two buttons, a button with dropdown options, or other combinations. Refer to the phone's manual for details.

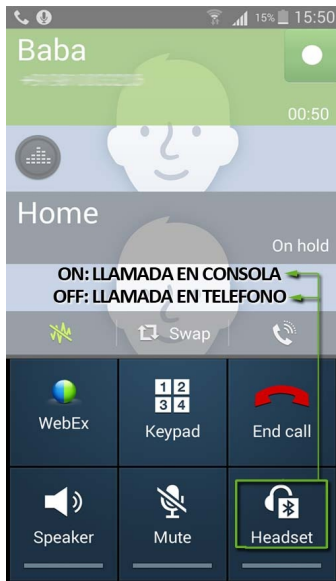


Image 6: Cell phone linked by Bluetooth

4.2 TO MAKE A CALL ON THE MOBILE PHONE

Para generar la llamada desde el móvil:

1. On the phone, change the Bluetooth mode to "Speaker" to speak from the mobile phone and make the call (SEND). Calls can be traditional phone calls or made through applications (WhatsApp, Skype, Linphone, etc.).
2. To transfer the call to BLT200, re-enable Bluetooth (Headset) on the mobile phone. Naturally, the corresponding Bluetooth on BLT200 should be turned on.
3. Proceed from Step 3 of the previous description.

5 TECHNICAL SPECIFICATIONS

I/O CONNECTORS

¼" jack TRS

AUDIO OUT

TIP = Audio A / Audio A+B @+4 dBu

RING = Audio B @+4dBu

AUDIO IN

TIP: Return signal from the mixer console (Mix-Minus) - 10 dBu ~+ 10 dBu

RING: output TELCO for Solidyne mixers «EXT HYBRID»

Frequency response

50 Hz to 8.000 Hz full vocal range (Bluetooth 4.0/5.0)

Distortion (THD)

Input → Output = less than 0,2 %

Signal/Noise Ratio

less than a 70 dBA

Power source

External switching 110/220V → 12 V / 1 A