

Broadcast Host

Desktop Digital Hybrid



User Guide

JK Audio

Broadcast Host will allow you to send and receive audio over analog telephone lines. While this may seem like a simple task that any telephone can do, the challenge is getting the best quality audio from such a limited audio path.

What is a Digital Hybrid?

A digital hybrid connects audio signals to a standard analog telephone line without the variations in quality found with analog hybrids. The main function of a hybrid is to bring in the caller's voice from the phone line, as clear and clean as possible. In the real world, when you send your voice down the telephone line it has a tendency to bleed over into the caller's audio. The hybrid must adapt to the phone line in order to properly separate transmit and receive audio. We use a 16 bit DSP to continuously monitor the phone line and audio signals to deliver excellent separation. Our dual-convergence algorithm can achieve excellent trans-hybrid loss, typically exceeding 50 dB, without any setup.

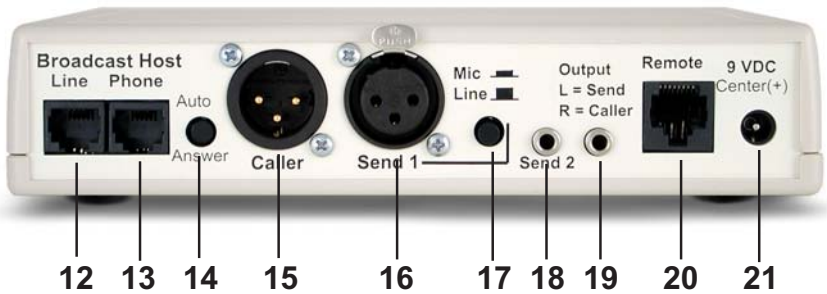
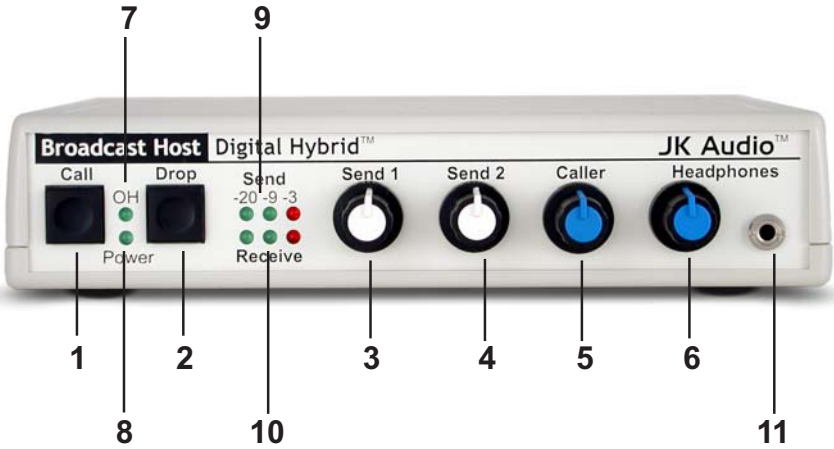
Ready to go?

The Broadcast Host controls and connectors are clearly marked and ready for operation. The feature diagram will help you pinpoint any minor questions that you may have. If this is your first exposure to a hybrid, we suggest that you read the entire manual to allow you to take advantage of all these features.

Any Questions?

Before you pick up the phone... Please thumb through the rest of this manual. You might find those deep technical questions are covered on later pages.

Features



Features (cont)

1. Call Button - Press this button to answer or place a telephone call (takes the line off-hook).
2. Drop Button - Press this button to drop (hang up) a call.
3. Send 1 Level - Adjusts the signal level that you are sending down the telephone line, through the female XLR input.
4. Send 2 Level - Adjusts the signal level that you are sending down the telephone line, through the 3.5mm mini jack input.
5. Caller Level - Adjusts the level of the signal coming in from the telephone line, going out the output jacks.
6. Headphone Level - Adjusts the signal level coming from the 3.5mm front panel headphone jack.
7. OH LED - Lit when you are on line with a call (Off-Hook).
8. Power LED - Lit when unit is plugged in and receiving power.
9. Send LEDs - Displays the signal level going out to the telephone line.
10. Receive LEDs - Displays the signal level coming from the phone line, after the DSP.
11. Headphones - The 3.5mm stereo headphone jack contains a mix of both the send input audio and the caller audio.
12. Line Jack - Connect to a standard, single line, analog telephone line.

Features (cont)

13. Phone Jack - Connect a single line analog telephone for call setup / dialing, or producer call screening.
14. Auto-Answer - Press this switch to enable the Broadcast Host to automatically answer an incoming call and then disconnect after the caller hangs up. Auto answer will occur on the first ring.
15. Caller Output - Male balanced XLR output contains only the callers voice.
16. Send 1 Input - Female balanced XLR input for signals going into the phone line. Mic or line level input.
17. Mic / Line switch - Sets the front end sensitivity of the Send 1 XLR jack. Set to *Mic* if you intend to plug a microphone directly to the Send jack. Set to *Line* if you are connecting to the line or auxiliary output of a mic mixer.
18. Send 2 Input - 3.5mm mono mini jack input for signals going into the phone line. Line level.
19. 3.5mm Output - Stereo mini jack output contains send and receive audio determined by the send 1 and send 2 levels and the caller level controls. Left channel contains your local send audio and right channel contains the caller's audio from the telephone line.
20. Remote Control Jack - 8 pin modular jack for connection to the JK Audio Guest Module 1 Remote Keypad or your broadcast console switch contacts.
21. Power Jack - For connection to supplied 9VDC regulated power supply only.

Connecting Cables

Although each application will require a slightly different setup, there are four cables that everyone can agree upon:

Phone Line - Connect the supplied RJ-11 phone line cable between the jack marked "Line" and your wall jack. Be sure this jack can support standard analog telephone operation.

Send Audio - Connect a microphone or mixing console output XLR cable to the Send jack on the Broadcast Host. Be sure to set the Broadcast Host mic/line switch to the proper position for your application.

Caller Audio - Connect the Caller Out jack to an input on your mixing console.

Power - Connect the supplied DC power supply to the back of the Broadcast Host and then to an AC power outlet.

Your Broadcast Host is now ready to take calls. You may want to connect an auxiliary telephone to the Broadcast Host for call setup, or you can simply use the Auto-Answer feature to answer incoming calls.

Auxiliary Telephone

Broadcast Host will disconnect the auxiliary telephone when you press the Call button. You can use an auxiliary telephone to place or screen a call, and then you can place the call on hold. When you are ready to take the call on Broadcast Host, simply press the Call button. Your telephone will automatically release the hold while you talk. If you need to take the call back on the aux telephone, simply pick up the phone before the Broadcast Host Drop button is pressed.

Send Signal Level

The Send LEDs display the signal level as it goes out over the phone line. The goal is to drive the phone line at high enough levels to avoid phone line noise, but not so loud as to cause excessive clipping. Adjust the send level control until you see occasional flashes of the red -3dB peak Send LED. These flashes should occur during loud speech bursts. If the red LED stays lit for extended periods you can assume that much of your speech is being clipped or distorted. In this case you should back down on the Send volume control for the input that is causing the clipping.

Receive Signal Level

The receive LEDs display the signal coming from the phone line and out of the DSP. The Caller level control does not change what you see on these LEDs. Adjust the Caller level control to give you the best signal at your equipment.

Auto-Answer

The Auto-Answer feature will answer on the first ring. When Auto-Answer is enabled, you can still take calls manually using the call button. When finished, you can either drop the call manually or allow the call to Auto-Disconnect. Broadcast Host will look for a CPC disconnect signal or ROH message from the phone company to determine when a call has disconnected. This can take up to a minute.

Remote Control Jack

The RJ-45 jack on the back of the Broadcast Host provides connection to a JK Audio Guest Module Remote Control, or to the switch contacts on your broadcast console.

Remote Control Jack (cont)

RJ45 Pinout:

Pin 1: Ground

Pin 2: Call / Drop Control

Pin 3: Ring / OH LED

Pin 4: DTMF Input

Pin 5: +4.3 VDC

Pin 6: Reserved

Pin 7: Reserved

Pin 8: Reserved

Pin 2 is your main control pin.

Momentarily connect pin 2 to pin 5 (power) through a 100 ohm 1/4 watt resistor to take Broadcast Host off-hook.

Momentarily connect pin 2 to pin 1 (ground) through a 100 ohm 1/4watt resistor to release the phone line.

Pin 3 contains a 4.3 VDC, 40 mA current limited output to drive a signal LED. We suggest adding a 200 ohm 1/4w resistor in series with an LED connected to ground.

Pin 5 supply output is current limited to 100 mA with a resettable fuse for use with the Guest Module and pin 2 connections. Do not attempt to power additional circuitry from this pin.

Contact your JK Audio dealer for additional information. Guest Module remote keypad not available for sale in Europe, Australia or New Zealand.

Specifications

Inputs:

- Send 1: Balanced Female XLR, 1k ohm, -10 mV RMS
 (-35 dBv nom)
 Mic/Line pad switch = +4 dBv max
- Send 2: 3.5mm mono, 20k ohm, 250 mV RMS (-10
 dBv nom)

Outputs:

- Balanced: Male XLR, 200 ohm, 500 mV RMS (+4 dBv
 max)
- Unbalanced: 3.5mm stereo, 50 ohm, 250 mV RMS (0 dBv
 max), Left = send, Right = caller
- Headphone: 3.5mm stereo, 8 ohms, 250 mW mixed send
 and receive
- Phone Line: RJ11C
- Aux Phone: RJ11C
- Isolation: 1500 VAC
- Ringer: 0.9B REN
- Frequency: telephone side 200 Hz - 3600 Hz
Response
- Power: 120-240 VAC power supply (included)
- Size: 7" x 6" x 1.6" (18 x 15 x 4.2 cm)
- Weight: 2.2 pounds (1 kg)

FCC Part 15 Compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by JK Audio can void the user's authority to operate the equipment.

FCC Registration

Your new JK Audio product has been registered with the Federal Communications Commission (FCC). This product complies with the standards in Part 68 of the FCC rules.

1. Connection and use with the nationwide telephone network

The FCC requires that you connect this telephone equipment to the national telephone network through a USOC RJ-11C modular telephone jack.

This equipment may not be used with Party Line Service or Coin Telephone Lines.

This equipment is hearing aid compatible.

2. Information for the telephone company

Upon request from your local telephone company, you are required to provide the following information:

a) The "line" to which you will connect the telephone equipment (that is, your telephone number), and

b) The telephone equipment's FCC registration number. This can be found on the bottom of your telephone equipment, and,

c) the ringer equivalence number (REN) for this equipment.

The REN is used to determine the quantity of devices which will be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed 5.0. To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the local telephone company.

3. Repair Instructions

If it is determined that your telephone equipment is malfunctioning, the FCC requires that it not be used and that it be unplugged from the modular outlet until the problem has been corrected. Repairs to this telephone equipment can only be made by the manufacturer or its authorized agents or by others who may be authorized by the FCC. For repair procedures, follow the instructions outlined under the warranty section of the manual

Rights of the telephone company

4. If telephone equipment is causing harm to the network, the telephone company may temporarily discontinue your telephone service. If possible, they'll notify you before they interrupt service. If advanced notice isn't practical, you'll be notified as soon as possible. You'll be given the opportunity to correct the problem, and you'll be informed of your right to file a complaint with the FCC.
Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper functioning of your JK Audio product. If such changes are planned, you'll be notified by your telephone company.

Warranty

Broadcast Host is covered by a 2-year warranty to be free from defective workmanship and materials. In the event that the Broadcast Host needs repair, you must call us to get an authorization, and then carefully pack and ship it to us. You will pay for shipping to us and we will pay for return back to you, UPS ground. No free repairs will be made if the defect was caused by misuse, weather conditions, or other cause, except for defective workmanship or materials. THERE ARE NO EXPRESS OR IMPLIED WARRANTIES WHICH EXTEND BEYOND THE WARRANTY HERE MADE.

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