JK Audio

TELEPHONE/AUDIO INTERFACE PRODUCTS



Quality Products for the Professional Broadcast Industry

Contents

Radio



Autonyprid
Broadcast Host4
Innkeeper PBX 5
innkeeper 4 10–11
Daptor Two
CellTap
THAT-2 17
ComPack

Television & Location Sound



AutoHybrid			3
Broadcast Hos	t		4
Innkeeper PBX			5
innkeeper 4			
Daptor Two			
CellTap			15
THAT-2			
RemoteAmp .			18
ComPack			

IVR/Telecom



AutoHybrid		 3
Broadcast Host		4
Innkeeper PBX		5
Daptor Two		14
CellTap		
THAT-2		 17

Computer/Web



Broadcast Host	4
Innkeeper PBX	5
RemoteMix Sport	9
VoicePath	
THAT-2	
Purformer	
Compack	20

JK Audio www.jkaudio.com

Welcome

Last year we stirred up the industry by introducing three very cost effective Digital Hybrid telephone interfaces. Broadcast Host made the biggest splash as the lowest priced digital hybrid around. Even we were surprised at the number of new applications that popped up. Innkeeper PBX was a close second as it won the Radio World NAB 2003 Cool Stuff award and continued to receive rave reviews. Innkeeper 4 was a real challenge and is finally in production. Look for Innkeeper 4 reviews in 2004.



This year we went to the other end of the technology spectrum... really simple. For years we have had requests for a simple auto-answer telephone coupler or hybrid. To this end we are introducing the JK Audio AutoHybrid. This is a real analog hybrid, not just a coupler. In typical JK Audio fashion, we looked closely at the application and then matched the user's needs with the physical design and optimum circuitry.

What do we work on next year? It's up to you. Keep those suggestions rolling in.

Thanks, Joe Klinger, President joeklinger@jkaudio.com

On The Web



Be sure to check out our web site. We keep it up to date with:

- New product information, FAQ (Frequently Asked Questions),
- Products categorized by application, Article reprints, and
- Trade show information.

Wireless Phone Compatibility...

Many JK Audio products provide connection to wireless (cell) phones. While our interface cable plugs directly into the 2.5 mm headset/earpiece jack on many telephone models, there are some telephones that are wired to prevent operation with third party equipment. In most cases, if you can use a generic, third party headset with your cell phone, you can use your JK Audio product as well. Also, while some wireless phones have an acceptable 2.5 mm jack, others require a headset adapter to convert their proprietary connector to an acceptable 2.5 mm jack. JK Audio does not offer these adapters.

Warranty

JK Audio products are covered by a two year warranty to be free from defective work-manship and materials. In the event that your JK Audio product needs repair, you must call us to get an authorization, and then carefully pack and ship it to us or the nearest authorized repair center. You will pay for shipping to us and we will pay for return back to you. No free repairs will be made if the defect was caused by misuse, weather conditions, or other causes, except for defective workmanship or materials. There are no express or implied warranties which extend beyond the warranty here made. Prices, features, and specifications subject to change without notice.

All JK Audio products are made in the USA and carry a two year warranty

AutoHybrid Telephone Audio Interface



Auto

Null

AutoHybrid allows simultaneous send and receive audio through analog telephone lines. This is a simple, passive, auto-answer/disconnect telephone line hybrid. Not just another half duplex auto-coupler, this is a full duplex AutoHybrid. Perfect for monitoring remote locations, IFB feeds, and many simple studio, conferencing, and PA telephone interface applications.

Yes, you can send and receive audio at the same time. The dual transformer hybrid is capable of 20 dB nominal trans-hybrid loss. In other words, your transmit signal will appear mixed with the receive signal, but at a level 20 dB lower than it was sent into the phone line.

The "Auto" feature is very simple. When the "Auto" switch is selected, AutoHybrid will answer on the first ring. The phone line will remain off-hook, or seized, until either; the Drop button is depressed, or until the phone company releases the line. AutoHybrid will drop the line with either a momentary loss of line current or a polarity reversal. Keep in mind that it may take several seconds before the phone company provides this release signal. Also keep in mind that some business PBX telephone systems do not provide this release signal.

This small desktop unit easily converts to a rack-mount unit using the optional RA4 Rack Panel. The RA4 holds four AutoHybrids in a 1U rack space.

Price: \$175.00 US

Price: \$50.00 US

Input:

Balanced female XLR, 1k ohms, 500 mV RMS (+4dBV max)

Output:

Balanced male XLR, 600 ohms, 200 mV RMS (-15 dBm nom) Off-Hook LED

Auto-Answer switch Screw terminals for:

Specifications

Off-hook control (+5 VDC momentary) Release control (+5 VDC momentary) OH LED signal (pulled to ground on OH)

Phone Line: RJ11C
Aux Phone: RJ11C
Isolation: 1500 VAC
Ringer: 0.8B REN
Frequency Response:

Telephone Side 200 Hz - 3600 Hz

Size: 4" x 5" x 1.5" (10.5 x 13 x 4 cm)

Weight: 1 pound (454 grams)

• Full Duplex Hybrid

Call

OH

JK Audio

AutoHybrid

MEW

- Auto-Answer/Disconnect
- Passive design No Power Required!
- XLR send jack
- XLR receive jack
- Remote control terminals
- Tough aluminum design



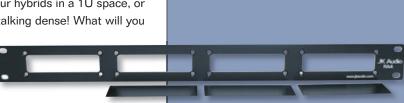
Drop



The RA4 holds four AutoHybrids in a 1U rack space. That's four hybrids in a 1U space, or stack two RA4s to get 8 hybrids in a 2U rack space....we're talking dense! What will you do with your extra rack space?

RA4 includes three removable blank covers.

Size: 19" x 1.75"



Broadcast Host Desktop Digital Hybrid









Broadcast Host turns your desktop into a professional broadcast center. Contains everything you need to get talk show quality phone recordings into your mixer or sound card.

Connect a mic and headphones for a simple broadcast back to the station. Already at the station? Use Broadcast Host in your newsroom to record high quality interviews. Broadcast Host allows you to send mic and line level signals into the phone line while maintaining excellent separation between your voice and the caller. The stereo output jack on the back of the unit provides your voice on one channel and only the caller's voice on the other channel. The balanced XLR output jack contains only the caller's voice.

The digital hybrid connects audio signals to a standard analog telephone line without the transmit / receive crosstalk common to analog hybrids. The Digital Signal Processor (DSP) continuously monitors both the phone line and audio signals to deliver excellent separation. This proprietary, dual-convergence echo canceller algorithm can achieve excellent separation, typically exceeding 50 dB, without any setup and without sending a noise burst down the line.

Broadcast Host provides connections for a microphone, headphones, mixer, sound card, telephone and your analog telephone line. An auxiliary telephone is only required to place outgoing calls. The auxiliary telephone is disconnected when you press the "Call" button, and reconnected when you press the "Drop" button.

Broadcast Host features Auto-Answer/Auto Disconnect for use in IFB and monitoring applications. Other applications include: telephone interviews, talk shows, church PA interface, and conference room full duplex applications.

Specifications

Price: \$495.00 US

Input

Mic/Line: Balanced Female XLR, 1kohm, -10 mVRMS (-35 dBv nom)

Mic/Line pad switch = +4dBv max

Line: 3.5 mm mono, 20kohm, 250 mV RMS (-10 dBv nom)

Output

Balanced: Male XLR, 200ohm, 500 mV RMS (+12 dBv max)
Unbalanced: 3.5 mm stereo, 50 ohms, 250 mV RMS (+4 dBv max)

Left = send, Right = caller.

Headphone: 3.5 mm stereo, 8 ohms, 250 mW, mixed send and receive.

Phone Line: RJ11C
Aux Phone: RJ11C
Isolation: 1500 VAC
Ringer: 0.8B REN
Frequency Response:

Telephone Side 200 Hz - 3600 Hz

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)



- Excellent separation of caller and talent voice
- 16 bit DSP technology
- Proprietary auto null algorithm,
 50 dB null
- XLR input (mic/line switch)
- 3.5 mm line input
- XLR caller output
- 3.5 mm line output
- 3.5 mm headphone jack
- Send & Receive LEDs
- Guest Module remote control jack
- Auto answer/disconnect

innkeeper PBX Desktop Digital Hybrid



Innkeeper PBX easily converts your multi-line PBX type telephone system into a professional, affordable talk show console. Simply connect between your telephone handset and the phone base. So simple, anyone can do it.

Talk Show: Connect Innkeeper PBX between your console and your existing multi-line telephone. Your producer can screen callers from another phone while you take callers on the air by simply selecting available lines on your phone.

Interviews: Use Innkeeper PBX in your newsroom to record high quality interviews. Connect a mic and headphones to your PBX telephone while maintaining excellent separation between your voice and the caller.

Conference Room: Easily connect your PA system to the existing PBX telephone system. The echo canceller algorithm can prevent feedback and allow full duplex conversations.

The digital hybrid connects audio signals to your PBX type telephone system through the telephone handset cord. The Digital Signal Processor (DSP) continuously monitors both transmit and receive audio signals to deliver excellent separation. This proprietary, dual-convergence echo canceller algorithm can achieve excellent separation without any setup, and without sending a noise burst down the line.

Innkeeper PBX provides connections for a microphone, headphones, mixer, sound card, and telephone handset. The stereo output jack on the back of the unit provides your voice on one channel and only the caller's voice on the other channel. The balanced XLR output jack contains only the caller's voice. The Handset and Broadcast buttons select between talking on the handset, or sending and receiving through the audio connections.

Specifications

Input

Mic/Line: Balanced Female XLR, 1kohm, -10 mVRMS (-35 dBv nom)

Mic/Line pad switch = +4dBv max

Line: 3.5 mm mono, 20kohm, 250 mV RMS (-10 dBv nom)

Output

Balanced: Male XLR, 200ohm, 500 mV RMS (+12 dBv max)
Unbalanced: 3.5 mm stereo, 50 ohms, 250 mV RMS (+4 dBv max)

Left = send, Right = caller.

Headphone: 3.5 mm stereo, 8 ohms, 250 mW, mixed send and receive.

Handset: RJ22 Phone Base: RJ22

Handset Type: Switch selects electret, dynamic, or carbon

handset microphone types.

Isolation: 1500 VAC Frequency Response:

Telephone Side 200 Hz - 3600 Hz

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)





- Excellent separation of caller and talent voice
- 16 bit DSP technology
- Proprietary auto null algorithm
- XLR input (mic/line switch)
- 3.5 mm line input
- XLR caller output
- 3.5 mm line output

Price: \$495.00 US

- 3.5 mm headphone jack
- Send & Receive LEDs
- Switch selects between electret, dynamic, and carbon handset types



innkeeper 4 Multi-Line Digital Hybrid







Price: \$1,795.00 US

Innkeeper 4 squeezes four independent digital hybrids in a 1U rack space. The front panel keypad, display, and handset jacks provide easy speed dialing and call setup. Digital hybrids allow you to send signals into the phone line while maintaining excellent separation between your voice and the caller. The balanced XLR output jacks contain only the caller's voice.

Digital hybrids connect audio signals to standard analog telephone lines without the transmit / receive crosstalk common to analog hybrids. The Digital Signal Processor (DSP) continuously monitors both the phone line and audio signals to deliver excellent separation. This proprietary, dual-convergence echo canceller algorithm can achieve excellent separation, typically exceeding 50 dB, without any setup and without sending a noise burst down the line.

The menu driven keypad and back lit display allow you to store 50 phone numbers by name in a phone list. You can also use the display to set features such as the number of rings before auto answer, master send channel selection, and test tone output. An auxiliary telephone jack is provided for each line. The auxiliary telephone is disconnected when you press the "Call" button, and reconnected when you press the "Drop" button.

Innkeeper 4 features Auto-Answer/Auto Disconnect for use in IFB and monitoring applications. Other applications include: telephone interviews, talk shows, church PA interface, and conference room full duplex applications.

- Excellent separation of send and receive audio
- Memory/Speed Dial from phone list
- 16 bit DSP technology
- Proprietary auto null algorithm, 50 dB null
- XLR line input, one per line
- XLR master input sends audio to selected lines
- XLR caller output, one per line
- Send & Receive level LED
- Remote control and LED status indication
- Monitor Handset Jacks
- Auto answer/disconnect

Specifications

Input

Line: (5) Balanced Female XLR, 600 ohm, 0 dBm max send

Output

Balanced: (4) Balanced male XLR, 600 ohm +4 dBm max

Handset: Front panel handset jacks biased for electret handset (not included)

Phone Line: (4) RJ11C Aux Phone: (4) RJ11C Isolation: 1500 VAC Ringer: 0.8B REN Frequency Response:

Telephone Side 200 Hz-3600 Hz

Power: 120-240 VAC power supply (internal). Size: 19" x 7.3" x 1.75" (26.7 x 18.6 x 4.5 cm)

Weight: 7.2 pounds (3.2 kg)



Master Send

Each phone line has an individual send and receive XLR jack. While this should be enough for most applications, there are several applications that require a "Master" audio input. This additional XLR input mixes with the audio of the individual channel send jack. By default, the master input will mix into all four channels. The front panel menu system allows you to turn off the master signal from any or all phone lines.

Remote Control

Included with your Innkeeper 4 is a small terminal board with a 5 foot cable that attaches to the remote jack on the back panel. This 10 pin modular jack contains two pins for each phone line. One pin provides Off Hook indication which supplies current to a remote LED when the line is active. The second pin is for a momentary switch which toggles the line on or off hook.



Keypad Dialing

Don't let the display and cursor keys scare you. If you need to place a call, just press the Call button on any line, then start dialing. To "hang up" simply press Drop.

Menu System

The cursor keys guide you through several features including speed dialing, test tone generation, Auto-Answer ring count, and Master Send line muting. Speed dial list includes phone numbers referenced by an alpha text name such as "Bob Smith". Test tone generation allows you to send a 1 kHz signal down any phone line or out any Caller output jack. This signal allows you to set levels on your existing audio equipment. Test signals are not a part of the auto-null tuning algorithm. Auto-Answer can be set to pick up after 0-7 rings (0 = 1 never answer).

Digital Hybrid

The purpose of a hybrid is to allow you to send and receive audio through a telephone line. The quality of the hybrid determines the amount of transmit audio that appears on the receive output jack, mixed with the caller's voice. We use a proprietary dual-convergence echo canceller algorithm which continuously compares transmit and receive audio while building a model of the phone line. The first model is built within the first 200 milliseconds of the call. Afterwards, the algorithm continuously adapts to the phone line for the duration of the call. This system is not disturbed by changes such as someone taking an extensionphone off-hook. Only your audio source is used as input to the algorithm. It does not require any noise bursts or "quiet time" to complete its mission. Bottom Line... **Excellent separation all the time.**

Daptor Two Wireless Phone Audio Interface





Remote Broadcasts or IFB feeds over a cell phone? Simply plug Daptor Two into the 2.5 mm headset jack of your cell phone. You can now send and receive audio from your mixer or tape recorder through the phone. Your cell phone will recognize Daptor Two as a headset which will disable the mic and speaker in the phone.

Daptor Two was designed to take advantage of the increasing number of wireless phones that accept third party headsets and earpieces. We've designed a circuit which emulates the electrical characteristics of these headsets. Please see Wireless Phone Compatibility on page 2.

Audio Connections—You may use either the XLR input or 1/4" input, not both. The XLR input jack is disconnected when a cable is plugged into the 1/4" input jack. The same is true for the XLR and 1/4" output jacks.

Specifications

Inputs:

XLR: 600 ohms balanced, line level, 0 dBm max input 1/4": mono unbalanced, line level, 0 dBm max input

Outputs:

XLR: 600 ohms balanced, mic level, -25 dBm avg output 1/4": mono, unbalanced, mic level, -25 dBm avg output Phone: 36" cable provided with 2.5 mm, 3 conductor headset plug

Power: Passive, no AC or battery power needed. 4.4" x 2.7" x 1.2" (11.2 x 6.9 x 3.5 cm) Size:

Weight: 7 ounces (200 grams)



CelTap Wireless Phone Audio Tap

Need to record your cell conversations? Connect CellTap between the 2.5 mm earpiece jack of your cell phone and your earpiece or headset. Now connect a tape recorder or powered speakers to the 3.5 mm mini jack. This audio output contains a nice mix of both sides of the conversation.

Cell Tap works with most wireless phones that accept a third party headset or earpiece.

Group Listen—Simply connect a powered speaker to the audio output jack and you will have a new conferencing capability. Everyone in the room can hear your conversation, but only the person wearing the headset can talk to the distant party. While this is not a speakerphone, in many cases it is more suitable for sales presentations or contract talks. Please see Wireless Phone Compatibility on page 2.

Specifications

3.5 mm mono audio output jack:

600 ohms, 100 mV RMS (-16 dBm nom.)

2.5 mm headset jack

36" cord with 2.5 mm headset plug provided Passive, no AC or battery power needed.

 $2" \times 2" \times 1.3"$ (5.1x 5.1 x 3.3 cm) Size: Weight: 3.5 ounces (100 grams)



Price: \$79.00 US

Price: \$175.00 US









- Passive, no AC or battery power needed
- Rugged diecast Aluminum

Power:

THAT-2 Telephone Handset Audio Tap









Connect the THAT-2 between your telephone and handset for quick access to audio in and out of the telephone. The THAT-2 is used by radio stations to record and play sound bites, and by TV and film sound crews to get IFB and dialog over phone lines.

The THAT-2 is the big brother of our model THAT-1, which is very popular with news reporters for its small yet rugged design. Over the years we've heard from many of our customers that they liked the THAT-1 but would prefer professional XLR jacks and compatibility with more telephone systems. Here is our answer... The THAT-2, a passive handset interface with professional and consumer jacks, separate input and output volume control, a selector switch for the different types of telephone systems, and still no batteries or AC needed!

Simply unplug the handset coily cord from the base of your telephone and plug it directly into the THAT-2. Then, using the supplied cable, connect the THAT-2 back to the telephone.

Now connect your audio equipment to the RCA or XLR jacks. The gray pushbutton selects which audio will be sent into the telephone (OUT = talking on the handset, IN = sending audio in through the RCA or XLR jacks). The output jacks contain a nice mix of audio from both sides of the conversation as well as the tones being pressed on the telephone keypad. The THAT-2 has a three-position switch which accommodates electret, dynamic, and carbon telephone handset microphone types. The THAT-2 will emulate the type of microphone that is in the handset and allow you send audio into many different types of analog and digital PBX sets, as well as ISDN telephones. The THAT-2 does not work with cellular telephones or any telephone with a keypad in the handset.

Specifications

Line Input:

RCA 20 kohms, 250 mV RMS (+12 dBm maximum)
XLR female 20 kohms, 250 mV RMS

(+12 dBm maximum)

Line Output:

RCA 600 ohms, 100 mV RMS

(–16 dBm nominal.)

XLR male 600 ohms, 100 mV RMS

(–16 dBm nominal.)

Handset Interface:

Biased for Electret, Dynamic, and Carbon handsets.

Size: 4.5" x 3.2" x 1.3"(11.4 x 8.2 x 3.3 cm)

Weight: 9 ounces (250 grams)





Simply plug THAT-2 between the handset and the base of your phone

- Works with analog, digital, PBX, and ISDN telephones
- RCA and XLR line in and out

Price: \$225.00 US

- Switch selects between carbon, dynamic, or electret handset types
- No battery or AC adapter needed!
- Durable diecast aluminum construction

Pureformer Stereo Isolation Transformer



The Pureformer provides hum and noise reduction for sound cards and audio equipment, and removes ground loops and DC paths that can cause hum and signal breakup.

The Pureformer isolates the electrical grounds of two pieces of audio equipment. This is especially important in the case of computer audio cards connected to high quality/low noise audio equipment. The computer electrical ground is often filled with noise from disk drive activity and data transmission. Many audio cards use the same electrical ground for the computer and the audio signal. When the computer audio card is connected to your studio equipment, the electrical noise from the computer can leak into the rest of your audio system.

The Pureformer completely isolates the electrical ground of the two systems and only allows audio signals to pass through. Pureformer cannot remove noise once it has been mixed with the audio signal, so it is important to find and treat the source of each problem.

Specifications

Price: \$59.00 US

Line Input: (2) RCA 600 ohms, 250 mV RMS (-10 dBm nom)
Line Output: (2) RCA 600 ohms, 250 mV RMS (-10 dBm nom)

Frequency Response:

20 Hz - 20 kHz (±) 0.1 dB

Insertion Loss: 0.8 dB

Size: 3.6" x 1.8" x 1.3" (9.2 x 4.6 x 3.3 cm)

Weight: 5 ounces (150 grams)



RemoteAmp Headphone/Earpiece Amplifier

The RemoteAmp is a simple battery-powered personal headphone amplifier.

Use the RemoteAmp as an IFB earpiece or headphone amplifier, or as an on-stage monitor headphone amplifier. This low-distortion, 1 watt amplifier will cut through the crowd noise without distortion.

The RemoteAmp clips to your belt and accepts a 3-pin XLR audio input from a mixer, distribution amplifier, telephone line hybrid, or a handset interface like our QuickTap IFB. You'll like the convenience features, such as the separate power switch, which allows you to leave the volume control set at a comfortable level. And you'll appreciate the common-sense features like the battery test indicator and easy change battery door.

Specifications

Line Input:

XLR female 4000 ohms, 100 mV RMS nominal (+12dBm maximum)

46 dB maximum gain

Output: 1/4" Stereo

8 ohms, 1 watt maximum

1/8" mono

150 ohms, 100 milliwatts nominal

Size: 5.1" x 2.7" x 1.3" (13 x 6.9 x 3.3 cm)

Weight: 10 ounces (280 grams)



Price: \$215.00 US

No tools required to change the battery!



Compack Universal Telephone Audio Interface

Pick up this new handheld road tool to get audio in and out of analog phone lines, PBX systems, even cell phones. Perfect for Remote Broadcasts, IFB feeds, or interviews over any phone connection.

Cell Phones: Simply plug ComPack into the 2.5 mm headset jack of your wireless cell phone. Your phone will recognize ComPack as a headset, allowing you to send and receive audio through the phone.

PBX Systems: Unplug the handset from any analog or digital PBX phone and plug the coily cord into ComPack. You can now send and receive audio through the PBX telephone

Analog Phones: Plug ComPack into an RJ-11 jack, go off-hook and dial, or answer an incoming call.

ComPack also functions as a simple telecom interface for your beltpack intercom system. This no-frills feature allows you to connect the 3 pin male XLR to your beltpack intercom group. This provides a full duplex, always-on connection to any telephone network.

The ComPack cell phone interface was designed to take advantage of the increasing number of wireless phones that accept third party headsets and earpiece headsets. Please see Wireless Phone Compatibility on page 2.



Specifications

Input

XLR Female: 1 kohm. -10 mV RMS (-35 dBm nom) mic. +5 dBm line

3.5 mm line input: 20 kohms, -10 dBv RMS

Output

Male XLR

Mix Output: 600 ohms balanced phone mix output -25dBm RMS

Pin 3 bidirectional unbalanced Intercom mode: Headphone: 1/4" stereo, 8 ohms, 500 mW

Phone Line: RJ11C 1500 VAC Isolation: Ringer LED: 0.9B REN **DTMF** Keypad:

PBX Handset interface simulates electret, dynamic, and carbon handset microphone

36" cable provided with 2.5 mm, 3 conductor headset plug. Wireless phone: Power: One 9 volt battery, AC power supply 120-240 VAC (included).

Shoulder strap included.

8" x 3" x 2.2" (20.3 x 7.6 x 5.6 cm) Weight: 1.5 pounds (680 grams)



Price: \$545.00 US



- XLR input (mic/line switch)
- 3.5 mm line input
- 1/4" headphone jack
- Works with conventional phone lines
- Works with analog and digital PBX or ISDN phones
- Works with most wireless phones
- XLR phone mix output switches to intercom link
- Transmit clip LED
- Battery test LED
- Keypad lockout switch
- · Runs 20 hours on one 9 volt **battery**

