



JK Audio Phone Interfaces

Simon Jones MIBS tries out a variety of cost-effective phone interfaces from America.

Obtaining useful bits of kit on location is not usually as easy as popping into a corner shop, so imagine my surprise when filming antique pianolas in Ealing, in premises still using gas lighting, to discover just a few doors away a hi-tech office and workshop brimming with gadgets and tools to help the audio professional. While I let my cameraman do his mute thing, Ian Prowse of Vortex Communications introduced me to some of them...

My attention was grabbed initially by a range of interface products from American manufacturer JK Audio, based on founder Joe Klinger's experience with AT&T Bell Labs. His work received patents in user interface design and signal processing, and whilst engineering knowledge is vital, he says that his most important lesson was taught by a human factors psychologist: "When it comes to user interface design, never make any assumptions, and never ask an engineer!"



CellTap

Location recordists are often asked to record contributors making phone calls, and there are a number of ways of going about this. JK Audio's CellTap measures two inches square by 1.25 deep and it connects between a mobile phone and a wired headset. A two foot long lead is fitted with a 2.5mm jack on one end to fit a phone's headphone socket, with a quarter-inch jack on the other end for the CellTap. The output is then available on a 3.5mm socket to connect to a recorder or powered speaker. The final socket is for a normal mobile headset (not supplied) enabling the user to speak and listen. The unit will not work without a headset plugged in.

This could be a very useful little box for the location recordist, as long as the mobile phone being used has the matching headphone socket - I had a selection of Nokia phones to hand but all required an adaptor before plugging in a 2.5mm jack. The output signal is a mix of both sides of the conversation - not a clean feed in the normal TBU arrangement. Ian commented that the old 'business' cellphones and current models with PopPort can be used successfully.

Daptor Two

The Daptor Two is bulkier - looking much like an old EMO DI box and measuring about 2.75 x 4.5 x 1.5 inches. It has three, quarter-inch jack sockets on one side and two XLRs on the other, and connects to a phone using an identical cable to that employed by the CellTap. However, the Daptor Two will fool the phone into thinking it is connected to a headset, muting the phone's speaker and mic, so no

additional headset is required. One XLR and one jack socket receive a line level input to the phone, while the other XLR provides a mic level output from the phone (mixed conversation again). The XLRs are balanced with 600 Ohms impedance; the jacks are unbalanced (and the input XLR is disconnected if a jack is inserted).

THAT-2

An acronym for 'Telephone Handset Audio Tap,' this box is designed to interface with a standard telephone on a landline or PBX. It intercepts the cord between the telephone base and handset (it is not suitable for systems with the keypad on the handset, or cordless phones). Based on an identical box to the Daptor Two, one side has the same XLRs for sending and receiving audio, while the other carries phono sockets (effectively wired in parallel with the XLRs) and some operational controls.

Telephone handsets use a variety of microphone types, and a three position switch on the box allows the sensitivity to be adjusted to accommodate the most common ones. As the easy-reading manual explains, there is no way to know which type any particular phone uses, so you need to find the best position with trial and error. There are also two level control knobs (send and receive) and a push button to mute the handset microphone. The output from the phone is a mixed feed of both sides of the conversation, but with the adjustment available I found a balance where the outgoing could be 6dB quieter than the incoming. The phono sockets make it easy to interface with a semi-pro recorder or replay machine.



ComPack

If there's a little more space available in your bag, and a few more pounds in the budget, the ComPack is the item of choice. It combines all the functions of the previous units plus a few more. If a phone line is available, plug it straight in. If the sockets are inaccessible, plug into the handset lead and set the ComPack to imitate the handset type instead. If no landline is available, use a mobile phone instead by plugging into the phone's headset Jack. The ComPack will act as a phone in its own right, too, as long as you have headphones and a mic - there is an XLR input for a dynamic mic and a level control at the top with a peak limiting indicator. Using an SM58, and raising my voice a little, I could just about make the limiter flash, so there is sufficient gain to allow a commentator to work with a Coles lip microphone directly down the line, if needed. A separate line input (on a 3.5mm socket) with its own level control can be used simultaneously. When connected directly to a phone line the ComPack's front panel comes into its own. Three semi-recessed switches control Power on-off, capture or drop the phone line (Hook on-off),

and disable or activate the full sized keypad.

Another use of the ComPack is as an interface between a two-wire intercom system and a phone line - which could be very useful on an OB. Indeed, in the vein of belt-pack comms, holes in the chassis enable the unit to be attached to a belt or shoulder strap. Whereas the other units reviewed here have been passive, the additional functionality of the ComPack requires power in the form of a 9V battery or the supplied wall-wart unit. JK Audio claims about 20 hours use with a standard alkaline PP3. If I were to have any criticism of the unit it is that the input limiter LED becomes invisible when the unit is laid on a desk with the number-pad uppermost. That aside, I'm looking for an excuse to acquire a ComPack for my own kit!

All of the devices described so far are great for getting phone callers on-air expediently and without great cost. Of course, this isn't how it's done in most permanent broadcast facilities as the levels of side-tone imposed by the nature of these simple systems would be unacceptable. You couldn't put that sort of technology in a small box to use on location, could you?

Broadcast Host

Of course you can - enter the Broadcast Host! This 'Desktop Digital Hybrid' is a half-width 1U beige box which plugs directly to a phone line, with a socket for an optional phone extension for dialling and monitoring. As with the ComPack, the Broadcast Host has two inputs, each with an independent level control: a female XLR can be toggled between mic and line level input, and a second input can be connected on a 3.5mm jack socket. A male XLR provides a feed of the caller, with its own level control, and there is also a separate volume control for a 3.5mm headphone jack socket. Two rows of LEDs, marked -20, -9 and -3dB indicate the Send and Receive levels. A second 3.5mm socket (this time 'stereo') on the rear panel provides a monitoring output with the local input on the left channel and caller on the right; and an RJ45 socket enables remote control from a mixing desk.

Crosstalk is remarkably low and JK Audio claims that the processing will maintain 50dB separation between incoming and outgoing signals. Incoming



calls can be answered automatically if required and buttons are provided to answer and divert calls in the usual way.

Off the Hook?

All in all, these make up a useful set of boxes to call upon - far harder to describe than to set up and use. The well written and concise manuals clarify the finer points of operations, but the quickest way is simply to try them out. If at first you don't succeed... please hang up and try again. Of course, these days cabled interfaces seem rather old hat, and never more so than when dealing with mobile phones. So watch out in the next edition of *Line Up* for a review of some of JK Audio's high-tech Bluetooth interfaces.

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Prices:

CellTap	£ 43
Daptor-Two	£110
THAT-2	£140
ComPack	£370
Broadcast Host	£340

