SCHEMATIC DRAWING AND EXPLANATION

The DMCEx OSTI 8-1000

Audio / Telephone Interface

Presented by Michael Carrino, LogicAssistance Ltd. for the Digital Media Cast Experiment

This device is an inexpensive, old-school method of gathering audio from remote locations via telephone (the thing we used before Skype). Since everything needs a name, we'll call this the Digital Media Cast Experiment OSTI 8-1000. OSTI stands for
"Old School Telephone Interface"

Here are the parts you'll need to purchase to build the basic interface. This does not include cables or audio connectors. We'll discuss those options in this document, too. This list is made up of parts from Radio Shack only because most people can find one of those. It doesn't really matter from where you get the parts.

You'll need:

1 - Audio Output (Matching) Transformer
2 - 2.2 μF Electrolytic Capacitor

You'll also want to get some audio and telephone cables and jacks while you are at the store. The cheapest and easiest way to get the right connections is to purchase a 6 foot telephone cord that already has jacks attached and a 6 foot audio cable with jacks attached also. Cut the two cables in half and you will now have two of each cable – maybe you should build two interfaces. You'll probably also want to get an enclosure for the interface, too – something about 2 inches by 2 inches by 1 inch.
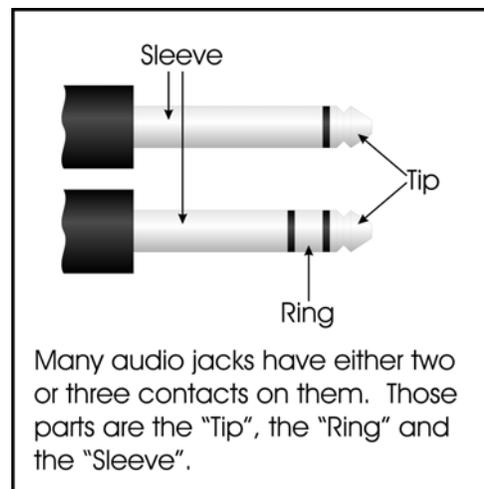
Here is the schematic drawing for assembly:

The DMCEx OSTI 8-1000
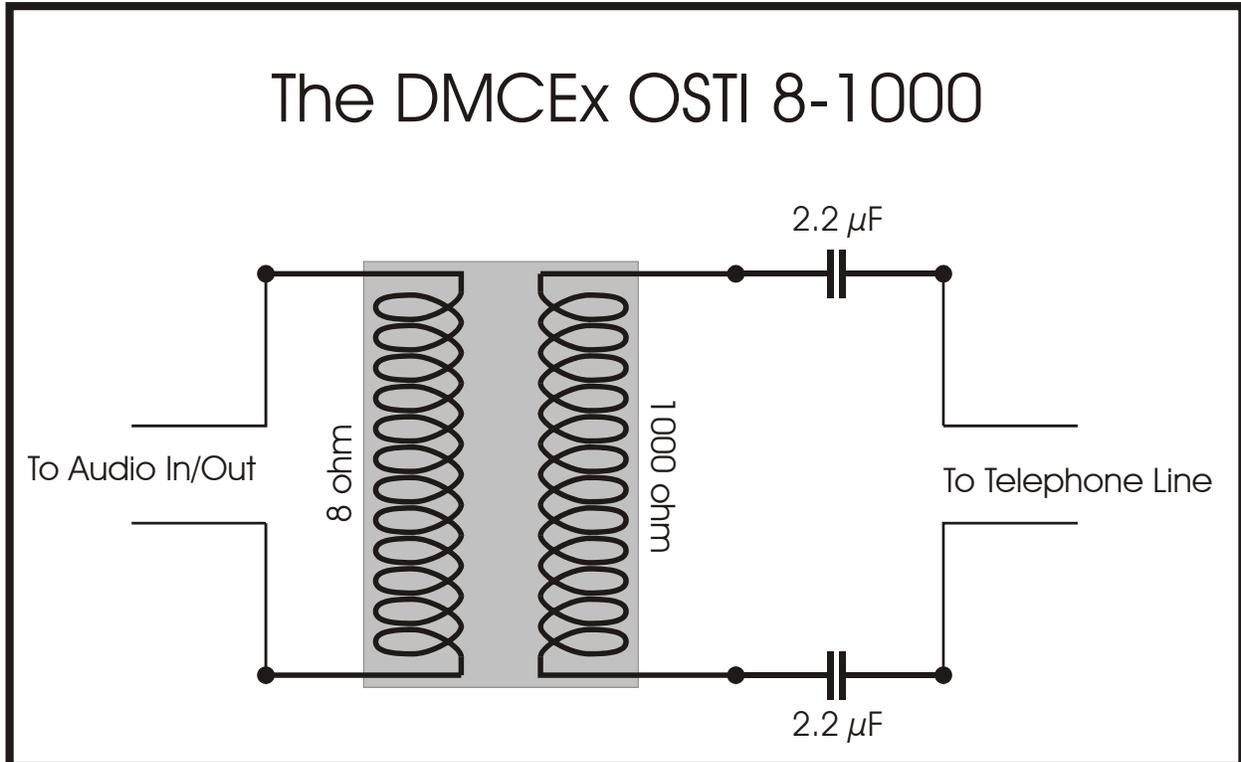
After you have soldered all of the connections, use electrical tape to cover the entire unit so no bare metal is showing. If you are going to put this in an enclosure, you may wish to wrap aluminum foil around the interface to keep it from rattling around inside the box and to help keep RFI (Radio Frequency Interference) away from the transformer coils.

For standard telephone hookup, use the pair of wires that are in the middle of the telephone jack. Some telephone wires have only one pair but if yours has more, use the pair in the middle. They are usually red and green.

The type of audio jacks you use depend on your particular application. Here are a couple of common scenarios:

Many audio jacks have either two or three contacts on them. Those parts are the "Tip", the "Ring" and the "Sleeve".

Computer soundcard, iRiver or MD with 1/8th inch stereo inputs: Use a 1/8th inch stereo jack, connect the sleeve to one side of the 8 ohm side of the transformer, connect the ring and tip to the other.

Mixing Board with 1/4th inch input jacks: use a monophonic (tip/sleeve only) jack. Connect the two terminals on the jack to the two leads from the transformer's 8 ohm side.

Mixing Board with XLR jack inputs: connect one 8 ohm lead to pin 2 (two) and connect the other to pins 1 (one) and 3 (three).

Line 2 of a dual line phone connection: connect the capacitors to the two wires that surround the middle pair. They are usually black and yellow.

TAKING A DIFFERENT DIRECTION

One of the nice things about this interface is it actually can work in two different directions. If you plug the audio side into a microphone input, you'll be able to capture everything that is going through that particular line into your recording device. But, what if you want to play audio into the telephone?

Same device, different hole. To send audio into the telephone line, simply plug the audio connector into the headphone jack of your play back device. This can also be used if your remote talent is mixing materials through an audio board. If nothing else, you can use this feature to play your podcast to anyone who will answer the phone.

ONE LAST NOTE

The OSTI 8-1000 is a passive interface that doesn't apply enough of a load to keep the phone "off the hook" so you'll need to have a real phone that keeps the connection alive. This interface merely listens for audio or applies additional audio to the line. Using a phone with a mute button can be very useful particularly if you let your remote guest talk for long periods of time. The mute button will keep noise from your side of the line interfere with the audio being recorded.

AND FINALLY

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Good luck with your project. If you have any questions or if you come up with an interesting variation of this project go to http://dmcex.com or e-mail the show at participate@dmcex.com.

Mike