

TECH TALK

Anyone who has worked with audio-visual equipment at all knows that connecting two pieces of equipment (also called *patching*) is not always a simple straight forward process. Getting the right combination of cables and plugs to fit the jacks on each piece of equipment is confusing at best. Murphy's Law of media centers states "Given two pieces of AV equipment that need connecting, you will have every cable and plug imaginable, except the one you need."

Perhaps we ourselves are not completely familiar with all the different types of plugs. To add to the confusion, we are often faced with having to help our users determine (usually over the phone) just which plugs are needed.

The following is a brief description of most of the different types of *plugs* (usually connected at the end of a cable; as opposed to *jacks* into which the plugs are inserted). (See the photograph on page 43.)

1. **UHF** is used with co-axial cable to carry video signals. While rugged and dependable, these connectors are somewhat clumsy to use since they must be screwed on or off.
2. **BNC** is also used with co-axial cable to carry video signals. Not only are these smaller, but they are a snap to connect or disconnect.
3. **Type F (or RF)** is about the same size as the BNC but is used to carry the radio frequency (RF) signal, particularly in cable TV. Both the audio and video signals are mixed in RF. These connectors must also be screwed on.
4. **Coaxial Video Connector or Slide Gold** is commonly used in studio setups for connecting (patching) video sources, usually in a "patch" panel.
5. **RCA Phono Plug** is a simple line (as opposed to RF) plug used for unbalanced audio and/or video signals. Usually one cable will be used for patching the audio signal and another for the video signal. This type plug is common in home stereo components and video cassette recorders.
6. **Phone Plug or Standard 1/4" Plug** Originally used in telephone switch boards, hence the name. Usually used to carry microphone or unbalanced audio signals. Although not listed here, a slightly smaller (3/8") plug is sometimes used in movie projectors and is commonly called a **Kodak plug**.
7. **Stereo Phone Plug** is the same as above, but can carry two audio signals.
8. **Mini-Plug** is a 1/8" Japanese all-purpose audio plug for unbalanced audio and microphone signals. Radios and cassette recorders often require this type plug. There is even a smaller version of this plug called the **Sub-Mini Plug**. Both of these also come in a stereo version.
9. **XLR or Cannon** is often used in PA or microphone systems. This plug has a safety lock (so it won't disconnect accidentally) and a ground wire for balanced audio systems.
10. (Female version of #9).
11. **Tip, Ring and Sleeve** is used for balanced audio systems, and is the same size as the 1/4" phone plug. There is also a mini (1/8") version of this plug.
12. **Banana** is often used with test equipment. The plug allows for only one wire

(whereas most of the others described here allow for two) and is easy to connect or disconnect.

13. **Banana (double)** is the two-wire version of the above.
14. **Lugs or Spades** are small, fork-shaped pieces of metal used with screw-type terminals. You will see these with antenna leads for radios and televisions.
15. **Multi-Pin Connectors** These vary in number of pins, and are designed for special applications, such as connecting a video recorder to a camera, or remote controls to recorders or players, etc.

Not listed above are several plugs more commonly found in computers, but sometimes found in audio equipment, such as the five-pin German DIN connector and the 9 and 25 pin "D" connectors. In addition, new types or variations of the above appear regularly (e.g. the OC-5 variation of the Co-axial connector).

Most of the plugs illustrated are *male*, in that they are inserted into a *female* jack. Remember, however, that plugs can also be *female*, especially on one end of an extension cable. Special audio and video adapters can be used change the *gender* of one end of a cable so it will match the jack to which it will be connected.

Further, it is often the case that the type of plug at one end will have to be different from the plug at the other end (e.g. a mini-plug at one end, and an RCA phono plug at the other). This requires special cables and

plugs (most are made with male plugs at each end), or again having adapters to change the gender, or the type of plug.

Any well-equipped lab will have a variety of cables, plugs, and adapters on hand for any kind of connecting requirement that may arise. Plugs and adapters are not cheap, but for somewhere between \$100 and \$200 you should be able to create for yourself a well rounded supply of connectors and adapters. Make sure you have plenty of the common types (RCA, Phone, Mini, BNC) and at least one each of all the others.

You can also help your users choose the correct cable or connector by setting up a display board with the various types mounted. Further, you can label or tag your cables by type, and store them in appropriately labeled bins for quick retrieval. When the users return the cables, you can quickly return them to the proper bin so they'll be ready for the next user.

Having the right cable ready for any occasion can be one of those things that set your operation apart as a professional service organization. Not only will your users appreciate it, but you yourself will live more calmly, knowing that you are ready for whatever comes up.

Note: material and photos for this article were provided by Patti Ryan (GTE; ITVA-LA Newsletter), and Jim Armbrrecht, University of Wisconsin-Madison.



The ALA Lab System

ALA's new computer-based medium. . .

brings *ALL* the language skills to *CALL*. The Student

- Listens** → to real, human speech
- Speaks** → and hears, compares, and practices his own speech
- Reads** → with or without hearing the text read
- Writes** → texts for creative writing assignments

Turns any PC into a sophisticated language laboratory

Adds interactive sound and dynamic graphics

Makes the traditional language laboratory obsolete

4 Integrated System Components

- Each* → **Individualized**
- **Instructional**
- **Interactive**
- **Motivational**



American Language Academy • Suite 550/IALL, 1401 Rockville Pike
Rockville, MD 20852 • Telephone: 1-800-346-3469, 1-301-309-1400
Fax: 1-301-309-0202 • Telex: 248777 ALA UR