

Electrical Telecom Mask Testing: APPLICATION BRIEF TF-ET Adaptor Pinouts and Trace Alignment Tips

The TF-ET adaptor kit, which is used in conjunction with the ET-PMT Electrical Telecom Mask Testing package, comes with three adaptors: AP120, AP100 and PP090. Each adaptor is used to properly terminate the input signal, and is used for a specific set of standards. This Application Brief describes how to use the adaptors and to adjust the trace in order to fit it to the mask.

AP120:

The AP120 is used to properly terminate E1-TP (twisted pair) signals. The adaptor has 3 inputs configured as in figure 1; use banana plugs to bring your signals and ground into the AP120.

AP100:

The AP100 is used to properly terminate DS-1 signals, and has an adaptor has a socket for a bantam connector. Bantam connectors are a standard connector type, and are available from most distributors of connectors and electronic parts and accessories. See figure 1 for the connection assignments.

PP090:

The PP090 is included for testing the remaining standards supported by the ET-PMT package, which each carry signals on 75ohm cable. The adapter converts to 50 ohm, and has a single BNC connector for inputting the signal into the PP090.

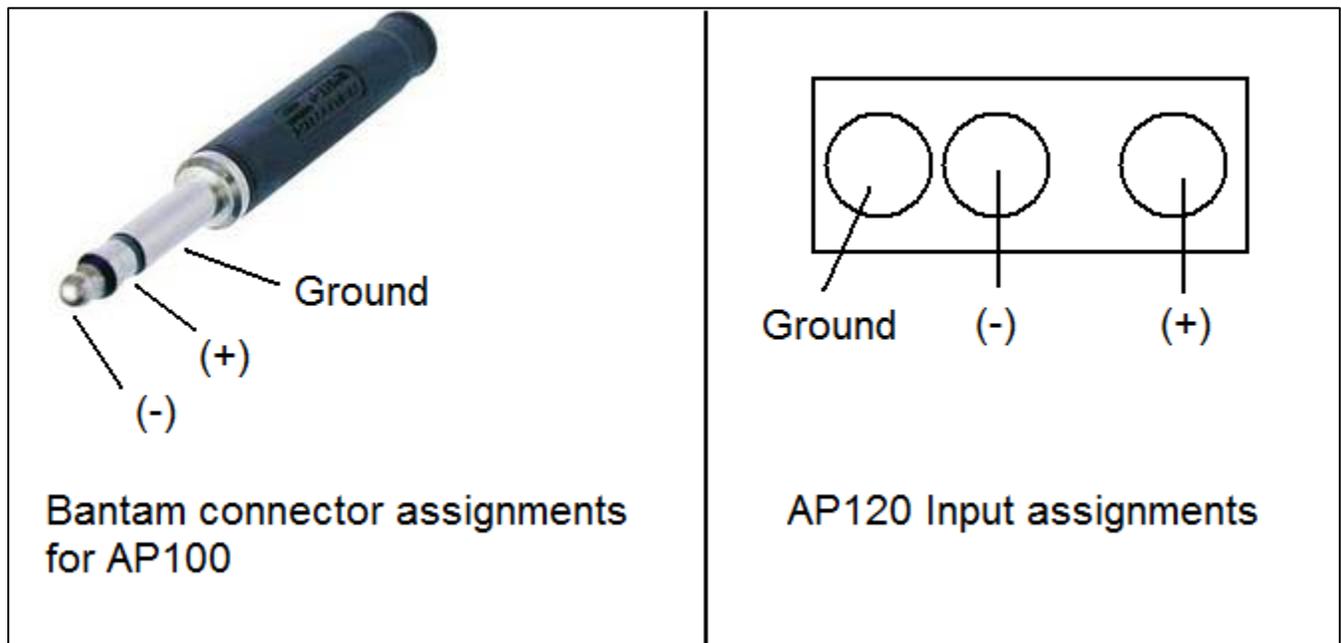


Figure 1 - AP100 and AP120 assignments

Tips for fitting the signal to the mask

Pressing the **Setup** button on the Electrical Telecom configuration screen will attempt to fit the signal to the mask, but some fine-tuning of the signal may be required. Here are a few tips:

1. Depending on the standard being tested, the ET-PMT package allows the user to set attenuation, offset or number of sweeps to use for averaging. Use these settings to optimize the fit of your signal to the mask.
2. Each mask includes an ideal position for the signal's baseline. In order to preserve the position of this baseline when changing the volts per division, go to **Utilities > Preference Setup...** and select the tab called **Acquisition**. This screen includes a setting for **Offset Setting Constant In**. For this setting, choose **Div**. This selection will keep the baseline at a fixed position on the grid when changing volts per division.
3. The position of the baseline can be shifted up or down by "grabbing" the trace and dragging. This is most easily done with a mouse attached to the oscilloscope. Moving the baseline will help to compensate for any offset in the signal. Be sure to follow the directions in step 2 to ensure that the position of the baseline is retained when adjusting the volts per division