

## Ampex plug-in Input Transformers

The following plug in transformers are used for the line input connections on the following Ampex recorders. This is only for the line inputs. There are also plug-in accessory microphone preamps available, however these are not commonly used in most applications. They will not be discussed here.

Part Num	Description	Notes
4580116-02	Balanced matching xfmr	AG350, MR70
4580116-01	Balanced bridging xfmr	AG350, MR70
4580200-01	Balanced bridging xfmr	AG440, AG600, MM1000, MM1100, MM1200, AM10
4580200-02	Balanced matching xfmr	AG440, AG600, MM1000, MM1100, MM1200, AM10
40030034-30	Dummy (shorting) plug	Used for unbalanced operation
58-0116-01	Balanced Bridging xfmr	MX10
58-0116-02	Balanced matching xfmr	MX10

### Transformer Connections

For operation with an unbalanced line, the dummy plugs (4030034-30) must be used. These plugs jumper pins 3 and 4, pins 6 and 7 and pins 2 and 8 (these two pins also connect to ground and the dummy plug shield).

### Line Input Transformers

For connection to a balanced line, two input transformers are available to replace the dummy plugs. Transformer 4580200-01 (4580116-01) is a balanced-bridging transformer with unit gain and an input impedance of 20K ohms. The AG350/MR70 part number is shown in parenthesis.

Transformer 4580200-02 (4580116-02) is a balanced-matching transformer, which provides a 14dB gain and an input impedance of 600 ohms.

The 58-0116-xx transformers use the same pinning as the 458-0116-xx transformers.

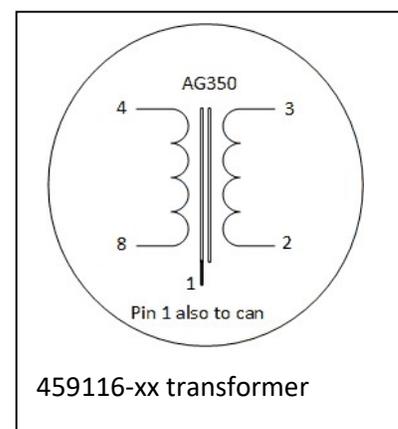
On both transformers, pins 4 and 8 are the primary winding signal input, pins 3 and 2 are the secondary winding output. Pin 1 is the case shield.

### AG350 and AG440 part differences

Let's see how the plug-in accessory sockets are wired on the AG350 and AG440.

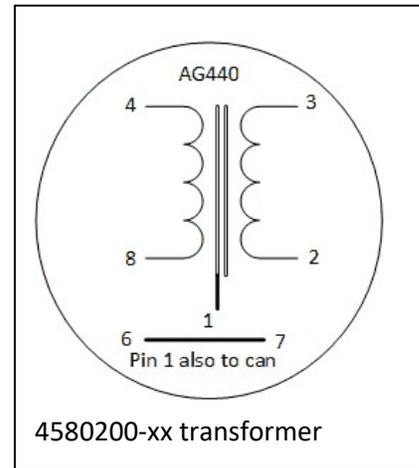
#### AG350

Pin	Usage	Notes
	<b>AG350</b>	
1	Chassis	
2	Audio circuit ground	
3	To top of record level control, via input selector switch	
4	Primary winding hot	Pin 3 of xlr
5	Decoupled power source	Thru 220R
6	NC	
7	23V power source	
8	Primary winding low. Connects to pin 2 of XLR	Jumpered at XLR connector to pin 1.



## AG440

Pin	Usage	Notes
	<b>AG440</b>	
1	Chassis and audio circuit ground	
2	Chassis and audio circuit ground	
3	Top of record level control	
4	Primary winding hot	Pin 3 of XLR
5	Decoupled power source from 39v via 27k resistor	
6	Output of record level control	Jumpered in transformer to pin 7
7	Audio input to record amplifier (5J10-1)	Jumpered in transformer to pin 6
8	Primary winding low	Pin 2 of xlr



## Conclusions

Internally, the transformers are the same, at least as far as the transformer part is concerned. The transformer windings are connected to the same pins on each part. There are differences in how the non-audio pins are assigned, and for the AG440 (and it's siblings) there is a jumper wire between pins 6 and 7 of the transformer. The plug-in microphone preamp depends on being able to access the audio signal path here.

To use the 4580116-xx transformer in an AG440, you must provide the jumper between pins 6 and 7 of the input accessory socket.

To use the 4580200-xx transformer in an AG350, you just plug it in, however the jumper at the input XLR connector between pin 2 and pin 1 must be cut.

It has been discussed on the Ampex list and if you use the transformers, it is desirable to wire a 20k resistor across pins 2 and 3 to terminate the secondary wiring, which reduces HF ringing. Not having them is not the end of the world, and maybe you like the slightly zingy high-end that the ringing causes.

## Sources:

Ampex AG-350 manual  
Ampex AG440B manual  
Ampex AG600B manual  
Ampex MM1000, MM1100, MM1200 manuals  
Ampex MX10 and AM10 manuals