
Application Note

AES AND S/PDIF RECOMMENDED TRANSFORMERS

Transformers are used in professional digital audio interfaces to provide high-frequency rejection, impedance matching, DC blocking and short-circuit protection. Due to the specialized needs of this application several manufacturers have designed transformers specifically for AES and S/PDIF circuits.

The transformer used in the professional interface should be capable of operation from 3.6 to 12.8 MHz, which is the audio data rate of 28 kHz to 100 kHz after biphase-mark encoding. Transformers provide isolation from ground loop, 60 Hz noise, and common mode noise and interference. One of the important considerations when choosing transformers is minimizing shunt capacitance between primary and secondary windings. The higher the shunt capacitance, the lower the isolation between primary and secondary and the more coupling that can occur for high frequency energy. This energy appears in the form of common mode noise on the receive side ground and has the potential to degrade analog performance. Therefore, shielded transformers optimized for minimum primary to secondary capacitance may be desirable.

The following are a few typical transformers. Please contact these manufacturers directly for more detailed information:

Pulse Engineering

Telecom Products Group
PO Box 12235
San Diego, CA 92110
(619) 674-8100
(619) 674-8262 fax
<http://www.pulseeng.com>
Part Number: PE65612

Schott Corporation

1000 Parkers Lane Rd.
Wayzata, MN 55391
(612) 475-1173
<http://www.schottcorp.com>

Scientific Conversion Inc.

42 Truman Dr.
Novato, CA 94947
(415) 892-2323
(415) 892-2321 fax
email: jonpaul@ix.netcom.com
Many other types available. Contact Scientific Conversion for catalog.

VITEC

4027 Clipper Court
Fremont, CA 94538
(510) 353-9260
(510) 353-9836 fax
<http://www.VitecCorp.com>
email: Fred.Hegwood@VitecCorp.com

Manufacturer	Part Number	Comments
Pulse Engineering	PE65612	
Schott Corporation	67125450	
	67128990	lower cost
	67129000	surface mount
	67129600	single shield
Scientific Conversion Inc.	SC916-01	1:1 shielded, 12.5 mm thru hole
	SC944-05	2:1 shielded, 12.5 mm thru hole
	SC937-02	1:1 shielded or 2:1 unshielded 9.5 × 5 mm SMD SO-8, for AES/EBU, AES-3, S/PDIF
	SC979-03	1:1 unshielded 96 kHz 9.5 × 5 mm SMD SO-8 for 2× sampling and DVD
VITEC	67Z6700	