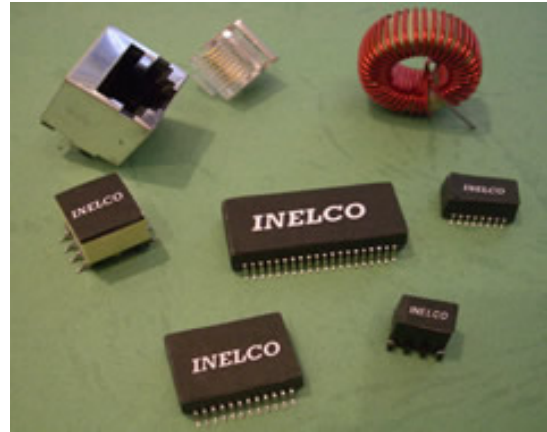
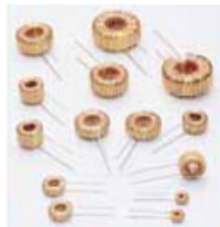
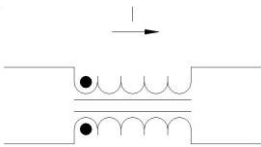


discom - discrete components / Inductors / Transformers

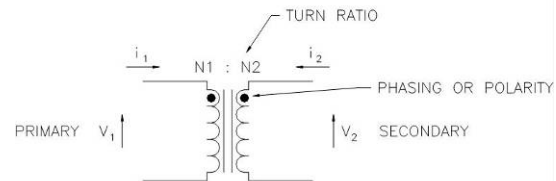
Common Mode Chokes

- Suitable for both LAN and Telecom applications
- Filter common mode noise for EMI reduction
- Available packaging in surface mount and through hole.
- In a transmission line the common mode signal is the unwanted signal because it carries no information. The common mode current flow in the same direction through the choke windings creating equal and in phase magnetic fields, which add together. This results in the choke representing high impedance to the common mode signal.
- Common Mode Chokes provide high impedance against common mode signals while allowing differential mode signals to pass through.



Transformer:

- A transformer is defined as two inductors that happen to be magnetically coupled
- Main uses of transformers in the LAN and Telecommunication applications are for isolation, matching impedances and filtering.



$$\frac{V_1}{V_2} = \frac{N_1}{N_2} = \frac{i_1}{i_2}$$

$$\frac{Z_1}{Z_2} = \left(\frac{N_1}{N_2}\right)^2$$

TELECOM MAGNETICS

xDSL Transformers

- ADSL, HDSL, VDSL, G.SHDSL
- Designed for long haul and short haul application

T1/E1/CEPT, T3/E3/DS3, E4,ISDN

- Designed to meet CCITT & FCC requirements
- Provide 1500Vrms isolation
- ISDN U and S interface

Data Rate comparison for T1/E1/T3/E3/E4

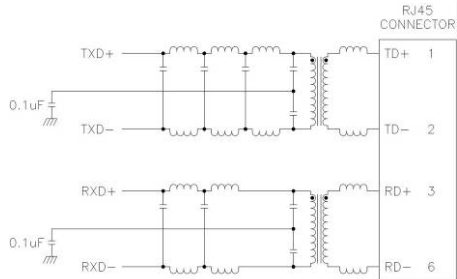
- T1 - 1.544 Mbps
- E1 - 2.048 Mbps
- T3 - 44.736 Mbps
- E3 - 34.368 Mbps
- E4 - 139.264 Mbps

LAN MAGNETICS

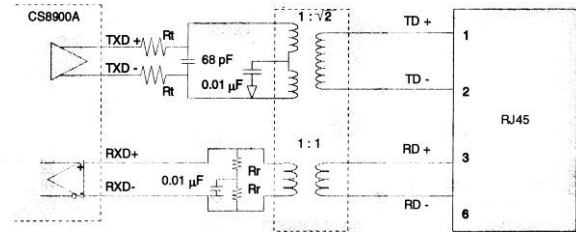
10/100/1000Base T(Gigabit)/Token Ring/ATM/ Home Networking(HPNA)/PoE

- Support 1:1 Turns Ration Transceivers
- Compliant with IEEE 802.3ab
- Cable interface for isolation and low common mode emissions
- Designed for Auto MDI/MDIX applications
- Available at single, dual and quad port modules
- Match with leading transceiver ICs

Typical 10BaseT/Token Ring circuit (low pass filter)

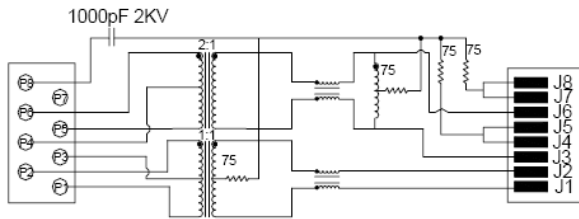


Typical 10Base-T circuit (filterless)



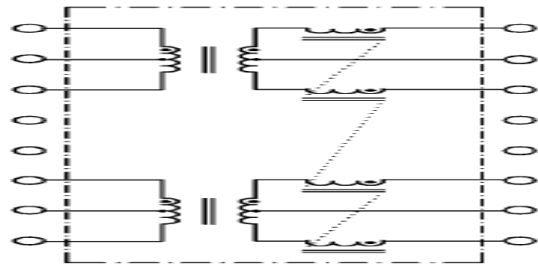
inrajacks are developed for filterless ICs

Typical 10/100 Base-T circuit

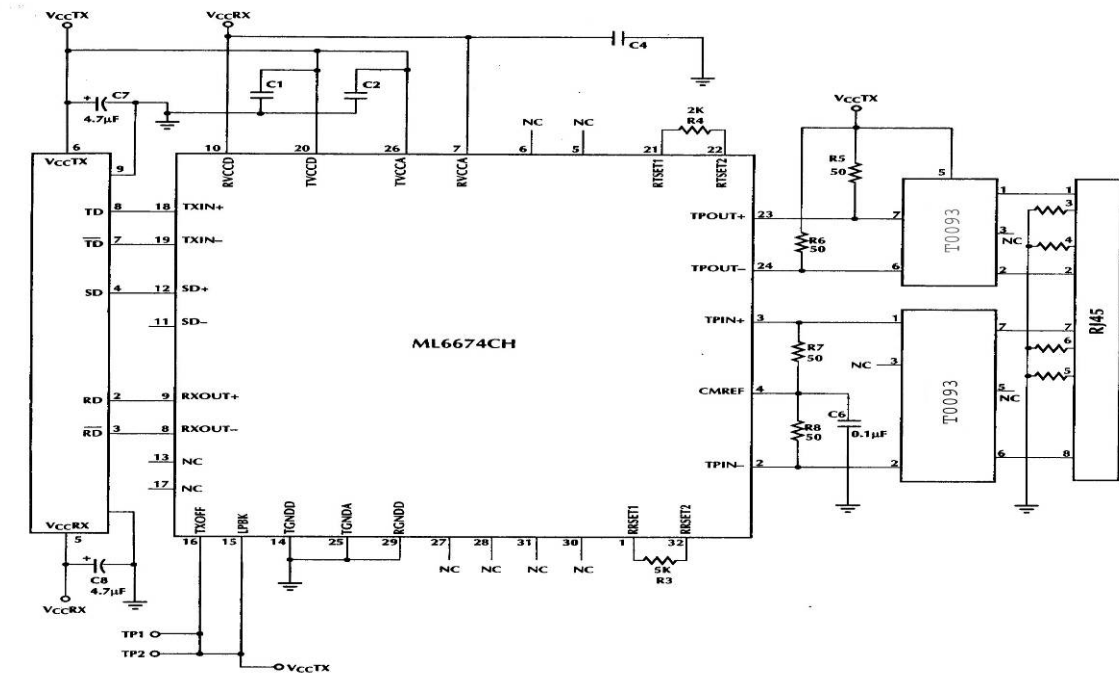


inrajacks are developed for all PHYs

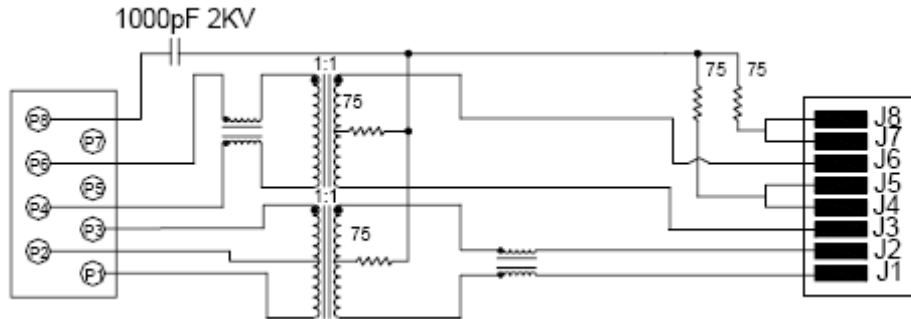
Typical 10/100BASE-TX VoIP circuit



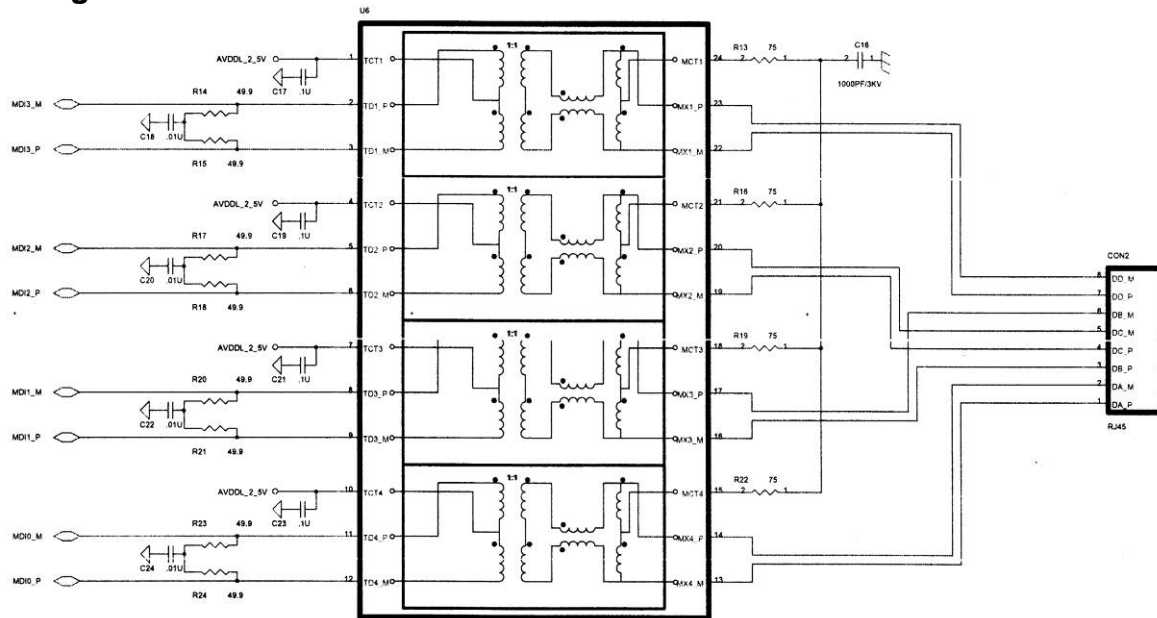
Typical ATM circuit



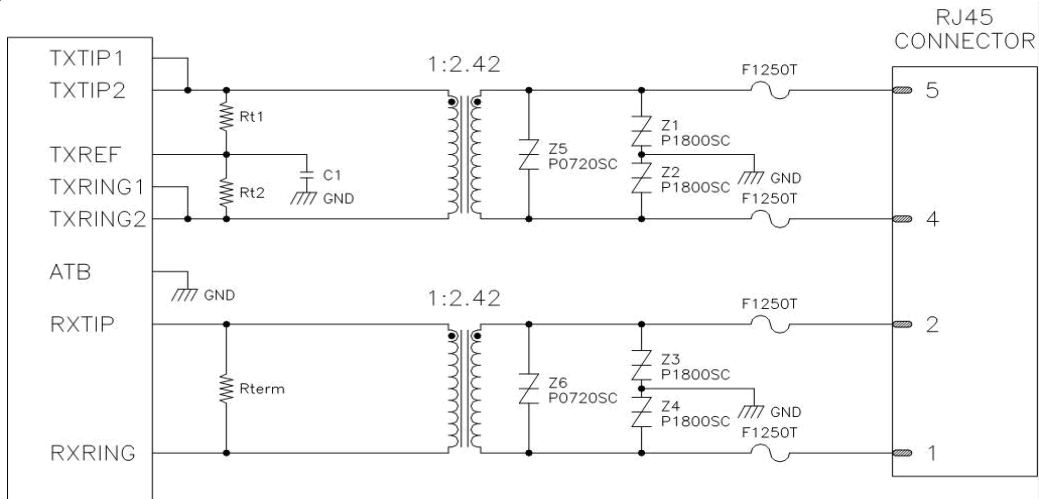
FastEthernet circuit for intrajack



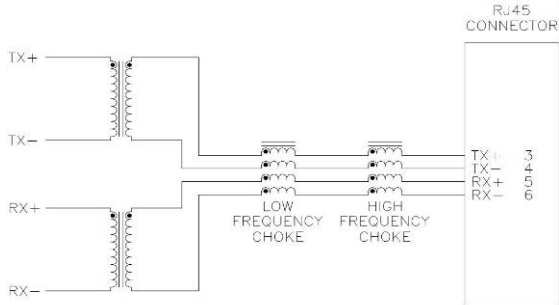
Typical Gigabit Circuit



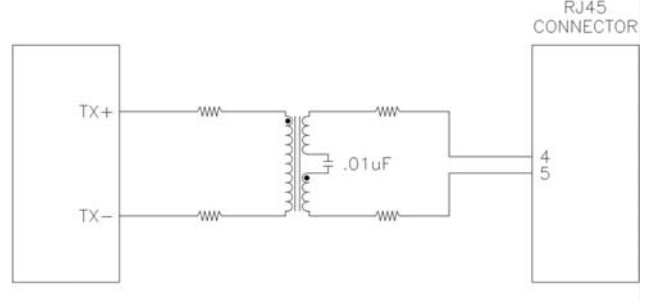
Typical T1/E1 Circuit



TYPICAL ISDN S INTERFACE CIRCUIT



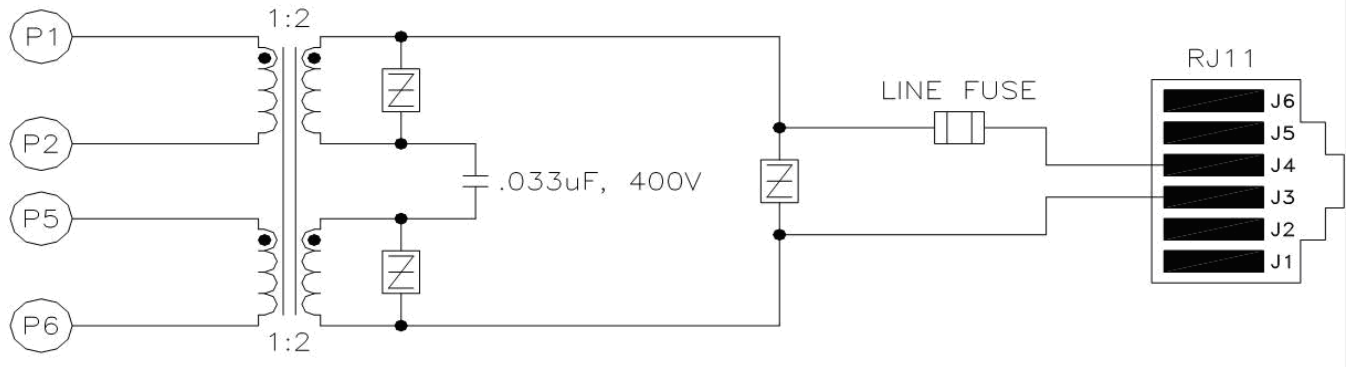
TYPICAL ISDN U INTERFACE CIRCUIT



DSL Transmission Varieties

DSL Type	Downstream Speed	Upstream Speed	Distance ft
HDSL	2 Mbps	2 Mbps	16000 ft
AADSL	Up to 8 Mbps ,fixed rate	Up to 768 Kbps	12000 ft
ADSLII	Up to 8 Mbps	Up to 768 Kbps	13000 ft
RADSL	Up to 8 Mbps	Up to 768 Kbps	19000 ft
SDSL	768 Kbps	768 Kbps	13000 ft
VDSL	13.26 or 52Mbps	6 or 13 Mbps	5000 ft

Typical DSL Circuit



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