

T1 Communication Systems - A Brief Primer

The T1 line is the most widely used switched digital communication circuit used in America today. T1s are used for connecting phone and computer networks to public switched network infrastructures. Each T1 is equivalent to 24 64Kbps communication channels. Each channel utilizes two 100 Ohm shielded twisted pairs; one for transmit (TX) and one for receive (RX). Some T1 equipment uses two 75 Ohm coaxial connections for the TX and RX channels. Baluns are used to bridge the gap between 75 Ohm coaxial and 100 Ohm twisted pair.

Note: An E1 circuit is the European equivalent of the American T1. The infrastructure uses 120 Ohm shielded twisted pairs so 75/120 baluns would be used in European applications.

T1 - E1 Differences

	NAME	#64Kbps CHANNELS	TWISTED PAIR TYPE	COAXIAL TYPE
USA Standard	T1	24	2 100 Ohms Shielded Twisted Pair (RJ45s Typical)	75 Ohms (BNC Typical)
European Standard	E1	32	2 120 Ohms Shielded Twisted Pair (RJ45s Typical)	75 Ohms (BNC, 1.6/5.6 Typical)

Item #	Description	List Price
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✓RoHS 75 to 100 or 120 Ohm Transmission Baluns for Telecommunication Applications

75/100 and 75/120 Ohm impedance matching baluns allow users to use inexpensive shielded twisted pair cabling in place of expensive coaxial cabling. They are especially useful in telecommunication applications for patching at the distribution frame. Units meet CCITT Recommendation G703 and are great for American or European applications. Choose from multiple coaxial connector types as well as Krone IDC or compression IDC termination styles.

ACK2010	75 to 120 Ohm Balun, 1.6/5.6 Plug (Screw Type) / Krone IDC	27.00
ACK3010	75 to 120 Ohm Balun, 1.6/5.6 Jack / Krone IDC	27.00
ACK8010	75 to 120 Ohm Balun, BNC Plug / Krone IDC	26.00
ACK9010	75 to 120 Ohm Balun, BNC Bulkhead Jack / Krone IDC	26.00
ACC2060	75 to 120 Ohm Balun, 1.6/5.6 Plug (Screw Type) / Compression IDC	33.00
ACC3060	75 to 120 Ohm Balun, 1.6/5.6 Jack / Compression IDC	33.00
ACC8060	75 to 120 Ohm Balun, BNC Plug / Compression IDC	33.00

Mini Transmission Balun Electrical Specifications

- Impedance Match: 75 to 100 or 120 Ohms ± 10 measured at 70 MHz.
- Insertion Loss: <0.9 dB, range measured 0.2 MHz to 70 MHz.
- Return Loss: <15 dB, range measured 1 MHz to 70 MHz.

75 to 120 Ohm E1 Dual Balun - Two BNC Jacks to RJ45

This unit allows bi-directional connectivity between coaxial and twisted pair E1 cabling. Dual 75 Ohm coaxial connections connect to shielded 120 Ohm RJ45 jack for easy connecting to terminated UTP/STP cabling.

ACD201	Dual BNC Jack / RJ45 Balun, 75 to 120 Ohm	59.95
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✓RoHS E1 Balun Panel - Twenty Dual Baluns in a 19" Rack Panel

This ACD2201 series offers an innovative way of converting multiple E1 connections from 75 Ohm coax to 120 Ohm twisted pair. Each dual balun circuit is built into a balun card which is then mounted to the rack panel. Balun cards are available with dual BNC connectors and one shielded RJ45 connector. Extra cards can be purchased for easy replacement in the future.

ACD2201	20 Port Balun Panel, Dual BNC Jack / RJ45, 75 to 120 Ohm	895.00
ACD2201-CARD	Balun Card, Dual BNC Jack / RJ45, 75 to 120 Ohm	59.95

Item #	Description	1-9	10-24	25-99	100-249	250-499
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✓RoHS Active Video Baluns

These active video baluns are perfect for long distance CCTV applications. Features include built in surge protection, screw terminals for quick installation, and 1,000 meter run support. These active video baluns require a power source (not included).

AVB-BNC-F	Active Video Balun, Female	49.95	48.95	47.95	46.95	45.95
AVB-BNC-M	Active Video Balun, Male	49.95	48.95	47.95	46.95	45.95

Tool-less CCTV Video Balun

The TL-VB-BNC is perfect for on the spot field installations or repairs. The tool-less design makes termination easy and fast. Supports full color video up to 2,200 feet over Cat5 cabling.

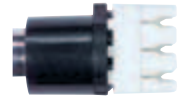
TL-VB-BNC	Tool-less CCTV Video Balun, BNC Male	12.95	12.69	12.43	12.17	11.91
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What is a balun?

The term balun (pronounced "bal-un") is derived from the function of the passive device that converts between a Balanced and Unbalanced electrical signal. Common types of baluns convert 100 Ohm twisted pair (balanced) to 75 Ohm coaxial (unbalanced).

ACK SERIES KRONE IDC TYPE



Terminate wires with punch down tool



ACC SERIES COMPRESSION IDC TYPE



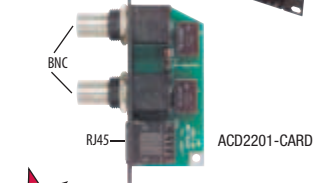
Terminate wires with wrench or pliers



ACD201
E1 Dual BNC
Jack to RJ45



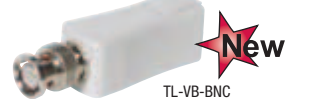
ACD2201
E1 Balun
Rack Panel



ACD2201-CARD



AVB-BNC-M



TL-VB-BNC

"I love your website! I can look at pictures of the connectors and know that I am getting the right ones. It is almost like I have the connectors right in front of me!"
- Bob Fulgham, 360 Communications, LLC