

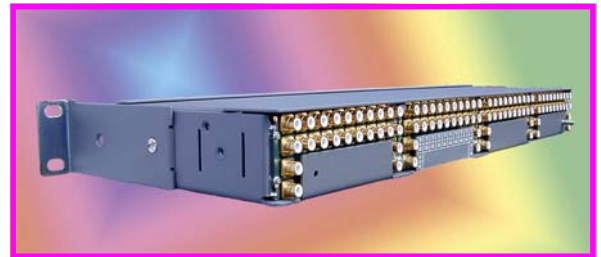
Compact 96x Balun System 19" Panel with 96 Baluns in 1U height

Features:

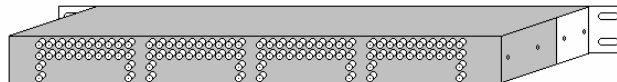
- Connects 75 ohm coaxial and 120 ohm twisted pair cabling systems
- Designed to exceed CCITT G.703 specifications
- Provides 24, 48, 72 or 96 paths in a 1U 19" panel
- Adjustable mounting brackets can be reversed and recessed
- Uses Industry Standard RJ45 and HDC43 connectors



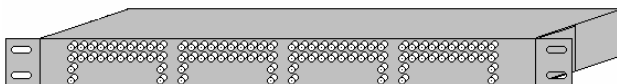
Cambridge Connectors has introduced this new rack mounted balun system aimed at applications where **ultra high wiring densities** are required. Packing 96 telecom baluns into a 1U high 19" panel, the Compact 96x series, is believed to provide the highest wiring densities of any balun system in the market. Using industry standard RJ45 and HDC43 connectors, the Compact 96x series provides the physical connection between coaxial cables at 75 ohms and twisted pair wiring systems at 120 ohms. Designed to exceed CCITT G.703 specifications, the 96x series comes in 4 versions which provide 24, 48 72 or 96 baluns in a rugged 19" enclosure. With adjustable mounting brackets the standard configuration of RJ45 connectors to the front and HDC43 to the rear can be reversed and recessed if required. This new balun system meets the demands of telecom carriers, OEMs, system integrators, installers and project managers seeking to reduce installation and maintenance costs especially in applications where space is at a premium.



Compact 96x panel showing RJ45 connectors at the front



Compact 96x panel showing HDC43 connectors at the rear



Compact 96x panel reversed showing HDC43 connectors at the front

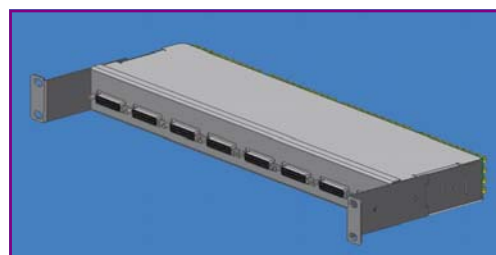
Part Number	Configuration
NPGSB-24-JA	12 RJ45 to 24 HDC43
NPGSB-48-JA	24 RJ45 to 48 HDC43
NPGSB-72-JA	36 RJ45 to 72 HDC43
NPGSB-96-JA	48 RJ45 to 96 HDC43

NB Units are not user upgradable - please specify configuration at time of ordering.



Now available with D connector termination

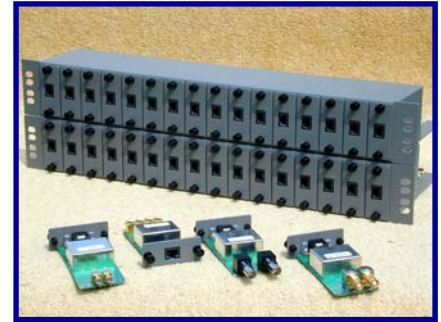
Configuration
2 x 25D to 24 HDC43
4 x 25D to 48 HDC43
6 x 25D to 72 HDC43
8 x 25D to 96 HDC43



Modular Balun System for G.703 Telecom Applications

Features:

- Connects 75 ohm coaxial and 120 ohm twisted pair cabling systems
- Supports all G.703 data rates up to 34 Mbps
- Snap-in modules are easy to install and maintain
- Field expandable and upgradable
- Various grounding and screening options



Cambridge Connectors' new Modular G.703 Balun System provides a flexible and future-proofing system that can be installed and maintained by carriers, service providers and installers. The series comprises various enclosures with a full range of compatible modules of different functionality and interconnection hardware.

Enclosures and Accessories

Description	Part Number
16 way 19" 1½U enclosure with rear cable management tray	NPGZM-16-NJ
½U high front mounting cable management tray	NMB-0057
Blanking plate for use with enclosures	NMB-0054

Earthing is provided via mounting brackets and/or terminal at the rear of the chassis. If required additional grounding can be provided with a rear mounted common ground bonding strip. This allows modules to be selectively grounded to a common rail. Contact Sales office for further information:-

Modules

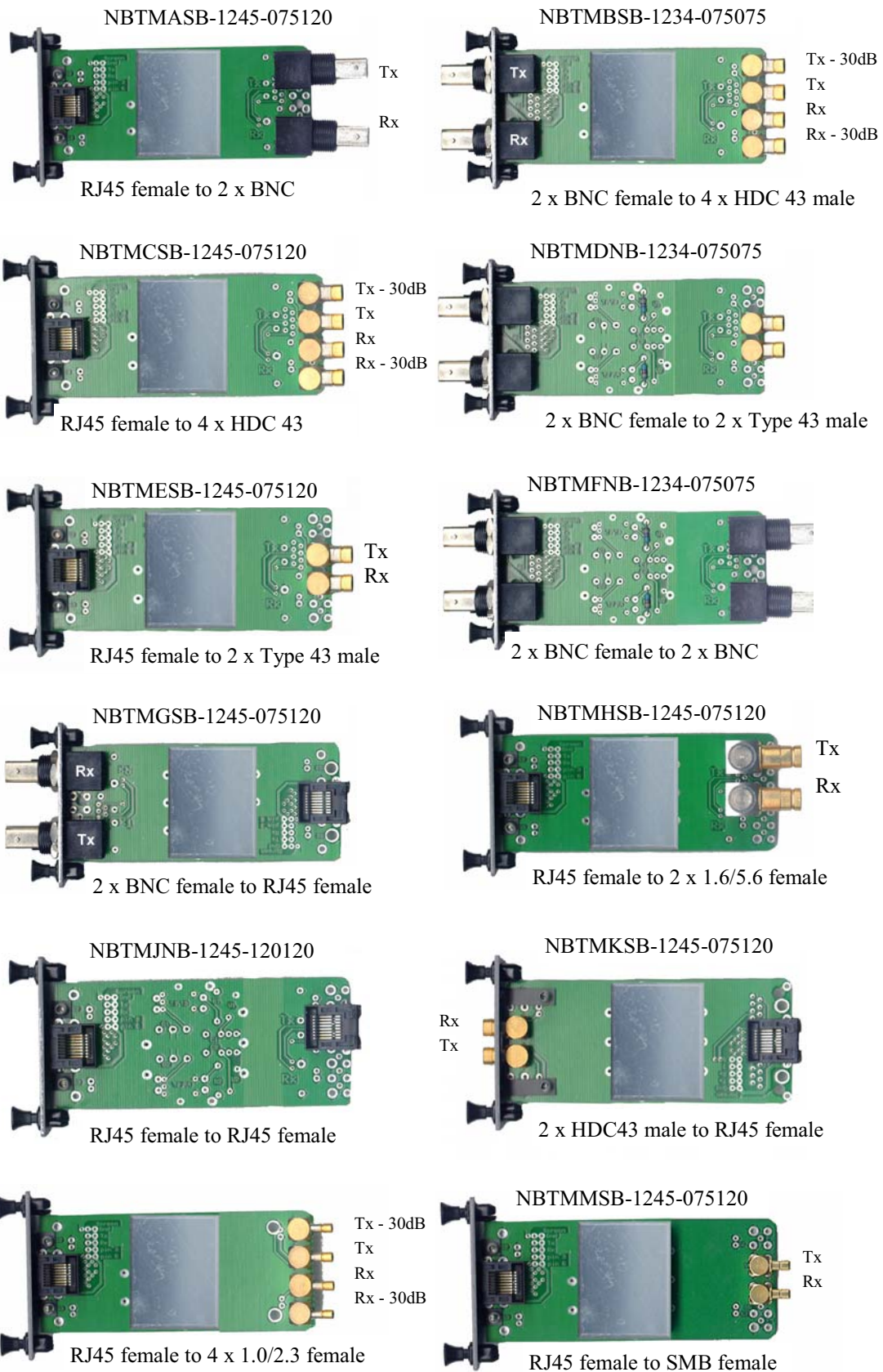
The modules, which require no power, are all interchangeable and offer a variety of connector systems including BNC, Type 43, HDC43, 1.6/5.6 1.0/2.3 and RJ45 (screened and unshielded). Screen grounding options are factory set or can be customer configurable. With quick release fastenings, modules can be installed or swapped in a matter of seconds.

In addition to the standard Dual Path modules a range of "Quad" Path modules is also available. Using high density type 43 connectors or 1.0/2.3 connectors these modules provide 2 complete Rx and Tx paths thus providing 32 ways in a standard 16 way 19" enclosure.

The default screen connectors are:- RJ45 screen, Coax Tx screen, Coax Rx screen, RJ45 pins 3 and 6. Alternative configurations are available at time of ordering if required. Modules are also available with onboard protection against Lightning and Transient spikes. For further information contact Sales office:-

Modular Balun System for G.703 Telecom Applications

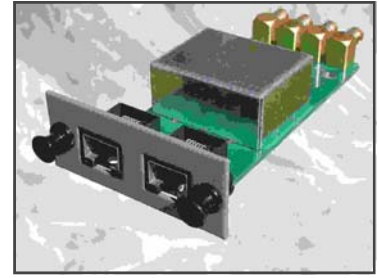
Dual Path G.703 Balun and Adaptor Modules



Modular Balun System for G.703 Telecom Applications

Quad Path G.703 Balun Modules

- Doubles wiring densities
- Saves rack space
- Reduces installation time
- HDC43, 1.0/2.3 connector styles



NBTMLSB-1245-075120

	Tx 1	RJ45 pairs
	Rx 1	pins
	Tx 2	1,2
	Rx 2	4,5
		1,2
		4,5

2 x RJ45 female to 4 x HDC 43 male

	RJ45 pairs
	pins
	1,2
	3,6
	4,5
	7,8

RJ45 female to 4 x HDC 43 male

NBTMVSBS-1245-075120

	Tx 1	RJ45 pairs
	Rx 1	pins
	Tx 2	1,2
	Rx 2	4,5
		1,2
		4,5

2 x RJ45 female to 4 x 1.0/2.3 female

NBTMXSB-1437-075120

	RJ45 pairs
	pins
	1,2
	3,6
	4,5
	7,8

RJ45 female to 4 x 1.0/2.3 female

IDC Option

- Snap click system
- No tooling
- Fast termination
- Re-usable

Twisted pair wires can easily be connected; no special tooling is necessary and, if required, the wires can be removed and re-terminated at any time.

NBTMXSB-1437-075120



NBTMNSB-1234-075120

	Tx pair	
	Screen/Drain	
	Rx Pair	

2 x BNC female to IDC

NBTMPSB-1234-075120

	Tx pair	
	Screen/Drain	
	Rx Pair	

2 x HDC 43 to IDC

NBTMRSB-1234-075120

Tx		Tx pair
Rx		Screen/Drain
		Rx Pair

2 x 1.6/5.6 to IDC

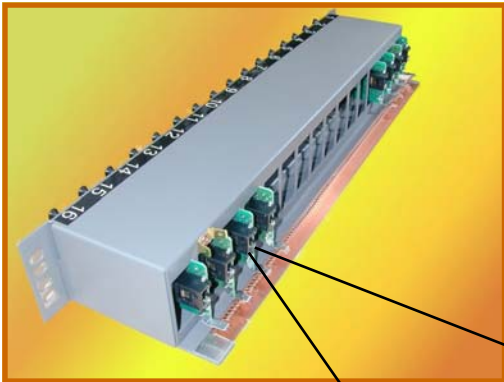
NBTMSSB-1234-075120

Tx		Tx pair
Rx		Screen/Drain
		Rx Pair

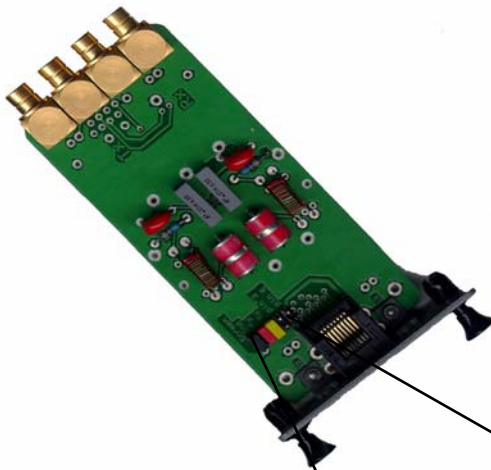
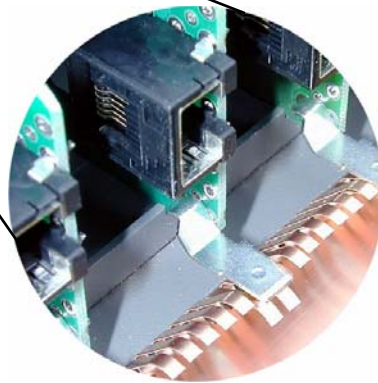
2 x 1.0/2.3 to IDC

Modular Balun System for G.703 Telecom Applications

Ground Bonding Option



In normal use, the flexible grounding and earthing options of Cambridge Connectors' G.703 Modular Balun System are sufficient to meet most requirements. Where additional grounding is required a 19" rack housing with a rear mounted common ground bonding rail can be supplied. This allows modules to be selectively grounded to a common rail.



Modules are supplied with default screen connections but can be factory configured to your requirements or provided with user selectable links for any combination of grounding and screening:-

Default shield connection to:
 RJ45 screen for F/STP installations
 Coax Transmit (Tx) screen
 Coax Received (Rx) screen
 RJ45 pins 3,6
 Chassis ground for bonding requirements.



Modular Balun System for G.703 Telecom Applications

Module Protection Options

- Lightning Surges
- Transient Spikes

Most modules are now available with on-board protection against surges caused by lightning strike and transient spikes caused by local electrical equipment.

Protection against lightning surges is provided by GDT's (gas discharge tubes) VDR's (voltage dependent resistors) provide the protection against transient spikes.



Typical Specification	
Working Voltage max	26 Vdc/20 Vac
Isolation Voltage	>500 V
Screen Coupling	0.1 μ F
Transient Protection	
Protection Voltage	< 37V
Transient 8/20 μ s	250A
Transient Energy 10/1000 μ s	1.2 Joules
Discharge Protection	
dc spark over	230 V
Impulse at 1 kV/ μ s	< 630V
Impulse discharge 8/20 μ s	10 kA

Other specifications are available on request.

Modules can also be offered with a variety of screen grounding options.

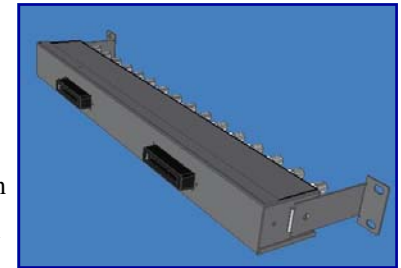
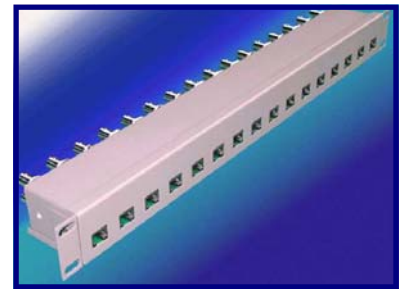
Please contact the Network Products Sales desk.

19" Rack Mount G.703 Balun Panels

16 Dual paths in 1U Height

Designed for ease of installation the units have the following features:

- ◆ 100% tested for reliability and durability
- ◆ Meets or exceeds G.703 specification
- ◆ 16 RJ45 connectors to 32 BNC Coaxial connectors
- ◆ Fully enclosed "tamper proof" design
- ◆ Removable mounting brackets allow unit to be recessed or reversed



The Cambridge Connectors' Dual Path Balun Panel for use in G.703 Telecommunication Applications enables data, carried over 75 ohm co-axial unbalanced cables, to be converted into balanced signals on low cost 120 ohm twisted pair cables. This has two benefits, cabling costs are greatly reduced and much higher wiring densities can be achieved. In addition, reliability is enhanced due to the higher integrity of connection that can be achieved. The physical connection is achieved through Female BNC connectors to fully screened RJ45 sockets.

Designed to meet CCITT G.703 Specifications, the 19" rack mounted panel comes in 1U size and is fully enclosed in a tamper proof steel case. Grounding is achieved through either masked zinc areas on the adjustable mounting brackets or by using a 4mm rear mounted grounding stud. The balun panel, which requires no external power, features exceptionally low signal loss exceeding G.703 Specification. The mounting brackets are available in two styles, standard or long. The long versions enable the panel to be recessed if required by 50mm. Both brackets can be reversed to allow either the BNC connectors or the RJ45 connectors to be front facing.

TECHNICAL SPECIFICATION

Mechanical:

RJ45 connector - Molex 1.3 microns Gold over Nickel - > 500 cycles

BNC connector - Nickel plated body, Gold plated contact - > 100 cycles

Electrical:

Impedance: 75 ohm unbalanced to 120 ohm balanced

The insertion loss is less than the curve formed by the straight-line insertion loss mask:

10 KHz	20 KHz	100 KHz	1 MHz	5 MHz	10 MHz	20 MHz
3.0 dB	1.0 dB	0.5 dB	0.5 dB	0.5 dB	1.0 dB	3.0 dB

Bi-directional return loss is more negative than -20dB between 100KHz and 5MHz.

Part Number	Description
NPGSB-32-DA	19" Balun panel 1U high - 16 x RJ45 female to 32 x BNC female
71N-4031-00	Standard Mounting Bracket
71N-4032-00	Elongated Mounting Bracket (allows 50mm recess)
NPGSB-16-DA	19" Balun panel 1U high - 8 x RJ45 female (front) to 16 x BNC female (rear)
NEW	19" Balun panel 1U high - 2 x Telco to 32 x BNC female