

## Prodyn Wideband Baluns

- **Balanced/differential to unbalanced/single-ended or vice-versa**
- **Excellent TDR/VSWR**
- **High isolation**

Prodyn baluns are wideband, bilateral passive converters whereby balanced signals can be converted to unbalanced or vice-versa with equal performance. Prodyn baluns are essentially bridge networks not transformers and therefore are not susceptible to typical transformer variables, allowing excellent common-mode characteristics and flatness. All three ports exhibit an excellent TDR/low VSWR and the two differential ports are well isolated from each other. These two features are of importance when using the unit with unmatched sources such as D-Dot (open circuit source) or B-Dot (short circuit source) sensors when maximum clear time is desired.

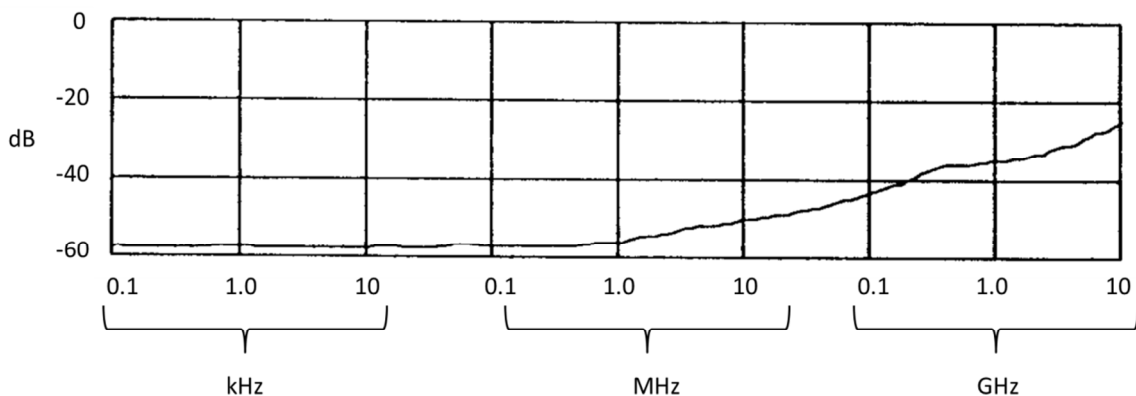


## TYPICAL APPLICATIONS

- Converting differential B-Dot and D-Dot sensor outputs to single-ended
- Cable measurements balanced to unbalanced or vice-versa
- Time mark addition
- Trigger pick-off

The sensor is a passive devices, therefore, external power is not required. Length of output, output style and connector type can be modified on request. Baluns can be ordered with optional lead x-ray shielding.

## COMMON MODE MEASUREMENT (TYPICAL)



## SPECIFICATION AND PART NUMBERING

The part number of a balun is a combination of the connector option followed by the bandwidth option. (*please see the tables below*). For example, a 20kHz-600MHz balun with type 'N' female connectors on input and output will have the model number BIB-120C. *Please note that housing sizes may vary depending on bandwidth and connector options.*

## BANDWIDTH OPTIONS

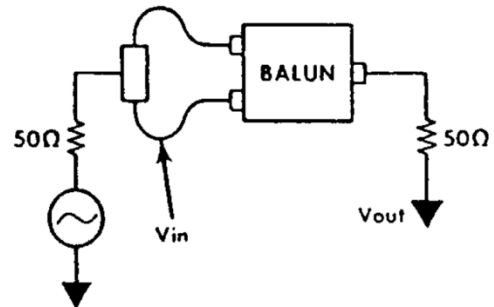
	Bandwidth (3dB)	Insertion Loss	Propagation Delay	Max Input Voltage (50ns duration)	Common Mode Rejection Ratio (dB)	Port Impedance (3 Ports)
A	10 Khz-250 MHz	6 db	3.2ns	1000 V	32	50
B	15 Khz- 400 MHz	6 db	2.2ns	1000 V	32	50
C	20 Khz- 600 MHz	6 db	1.9ns	1000 V	30	50
D	22 Khz- 1.4 GHz	6 db	1.4ns	1000 V	30	50
E	50 Hz- 150 MHz	6 db	5.3ns	1000 V	36	50
F	200 Khz- 3.5 GHz	8 db	0.6ns	1000 V	28	50
G	250 Khz- 10 GHz	8 db	0.6ns	1000 V	20	50
HV*	200 Khz- 3 GHz	8 db	0.6ns	5000 V	28	50

\* This balun is equipped with type HN connectors only.

## CONNECTOR OPTIONS

	Input	Output
BIB-100	SMA (Female)	SMA (Female)
BIB-101	SMA (Male)	SMA (Male)
BIB-110	GR (Twinax, TCC type)	GR (Locking)
BIB-120	Type 'N' (Female)	Type 'N' (Female)
BIB-125	Type 'N' (Female)	SMA (Female)
BIB-130	Twinax (Amphenol)	Type 'N' (Female)
BIB-135	GR (Twinax, TCC type)	Type 'N' (Female)
BIB-140	Type 'N' (Female)	Type 'N' (Male)
BIB-150	GR (Twinax, TCC type)	GR (Locking)
BIB-160	GR (Twinax, TCC type)	SMA (Female)
BIB-170	SMA (Female)	Type 'N' (Female)
BIB-180	BNC (Female)	BNC (Female)
BIB-190	TNC (Female)	Type 'N' (Female)
BIB-200	HN (Female)	HN (Female)

## CIRCUIT



## COMMON MODE REJECTION RATIO

$$CMRR = 20 \text{ Log } \frac{V_{out}}{V_{in}}$$

*N.B. Special bandwidth/connector options can be manufactured on request.*