

Highlights

- T1 signalled network interface using inband 5-bit loop UP/DOWN code
- Meets AT&T Compatibility Bulletin CB 119
- 1.544Mbps T1 PCM operation
- Terminates, isolates and protects T1 span lines (Meets FCC Part 68)
- Front panel Loopback & Power Status LEDs
- Line Test & Monitor jacks provided
- Local loopback, electronic locking
- Remote loop down overrides local
- Wall or KTU bar mounted
- Shielded circuitry and metal enclosure, meets FCC Part 15
- High MTBF; Single printed circuit board construction
- Designed for use with ASPR CO repeaters and all other T1 metallic loop electronics
- Extended range operation
- Customer terminals: RJ-48 connector and screw terminals
- ESF or standard framing
- Line Buildout, Transmit & Receive
- Line or local power
- CPE powered or dry
- Span Looped or through power to CPE

Advantages

- Provides all telephone company requirements per FCC regulations and Bellcore TR-TSY-000312
- Ideal network terminator where loopback is required
- Provides CPE demarcation point at RJ-48 jack
- Isolates & protects network from CPE equipment
- Provides for CPE powering
- RJ-48 jack and Thru/Loopback simplex operations meet FCC Part 68 requirements

The **CXR/Larus LA103** T1 DS1 Connector provides circuit demarcation and network interface capability to North American Standard T1 1.544Mbps PCM Carrier facilities terminated on customer premises.

Application



The LA103 provides inband coded signal loopback, line or local powering, looping of the telephone company simplex power, dry or wet customer interface, shielded and enclosed circuitry and a protected terminal block.

The LA103 isolates and terminates a telephone company T1 span line on customer premises. It provides looping of the simplex span when locally powered, as well as selectable signal regeneration. The receive circuit range is up to 6000 feet.

If the customer circuit is broken while the connector is in the through powering mode, the LA103 maintains the loopback regenerator and decoder power so that the remote looping feature remains operational.

The LA103 provides remote loopback control. Five bit loopback codes activate loop UP and loop DOWN when detected with a minimum duration of 3.5 seconds. The loopback decoder can read both framed and unframed DS1 coded signals, with errors at a 1×10^{-2} bit rate maximum, without switch selection.

Circuit board mounted switches allow configuration of the LA103 to specific operating environments, selectable transmit

CXR/Larus LA103

and receive pads, CPE voltage limit, loopback code detector manual Enable/Disable, line or local power and regenerator either out of circuit, in through and loopback paths, or in loopback path only. Loopback and power LED indicators, Transmit and Receive Line Monitor jacks, and a recessed loopback push-button switch are located on the front panel.

The LA103 may be powered over the span from the central office by any span powering repeater such as the Larus 1119, 1122 or 1181 ASPR repeaters.

Customer premises equipment is connected to the LA103 at the RJ-48 jack or may be connected to screw terminals provided.

Specifications

INPUT/OUTPUT IMPEDANCE

100 ohms, nominal @ 772 kHz

MAXIMUM SPAN LENGTH

6000 ft from last repeater to customer equipment

RECEIVE LINE SIGNAL FREQUENCY

1.544Mbps, ± 200 bps, bipolar

LINE BUILDOUT

0 to 35 dB, Automatic

TRANSMIT LINE BUILDOUT (TX LBO)

- 0,4.5, 7.5, 15.0dB, standard
- 0,3.0, 4.5, 10.5dB, optional
- 0,3.0, 7.5, 15.0dB, optional
- 0,7.5, 15.0, 22.0dB, optional

@ 772 kHz, Switch Selectable

RECEIVE LINE BUILDOUT

Optional, see TX LBO

INSERTION LOSS

- 1.2 dB nominal, @ 772 kHz
- 0.0 dB transmit and receive pad
- 0.8 dB contributed by span protection

REGENERATED PULSE AMPLITUDE

6 V P-P (± 3 V, ± 0.3 V)

DROP PRECOMPENSATION NETWORK

0 to 133 ft, balanced

REMOTE LOOPBACK CODES

- Loop UP 11000
- Loop DOWN 11100

REGENERATED LINE SIGNAL OUTPUT

- Pulse Width: 324 nS ± 30 nS
- Pulse Width Imbalance: 15 nS, maximum
- Pulse Overshoot: 10% to 30%; 20%
- Pulse Rise & Fall Time: 100 nS, maximum

DIELECTRIC ISOLATION, TIP & RING TO GROUND

1200 VAC, 60 Hz

INDICATORS

Loopback Yellow
Power Green

SIMPLEX LINE CURRENT

60 to 140 mA $\pm 5\%$

SIMPLEX POWER CIRCUIT VOLTAGE DROP

12 VDC, $\pm 5\%$

LOCAL POWER SOURCE

48 VDC, 0.1 A battery supply

CPE VOLTAGE LIMITS

24, 48 or 72 VDC Switch Selectable, CPE powering mode

LOOPBACK DC CONTROL CIRCUIT CURRENT

5 mA, minimum

EXTERNAL LOOP RESISTANCE, CLA, CLB TERMINALS

5 k ohms, 48 VDC source

PHYSICAL

- Dimensions 6.0 in x 7.0 in x 2.0 in (L x H x D)
- Weight 16 oz.

ENVIRONMENTAL

- Operating Temperature: 68° to 131°F (20° to 55°C)
- Storage Temperature: 104° to 185°F (40° to 85°C)

RELATIVE HUMIDITY

0% to 95% noncondensing

SURGE PROTECTION

- Resistive zener network
- Facility interface, Transmit and Receive

COMPLIANCE/REGULATORY

- FCC Part 15
- FCC Part 68

Ordering Configurations

LA103

DS1 Connector T1 Network Interface

CPE Jack

Model	Description
LA103-0	RJ-48C non-shorting
LA103-1	RJ-48X shorting