

Dixon Systems

LineMatcher

Model LM100B

Owner's Manual

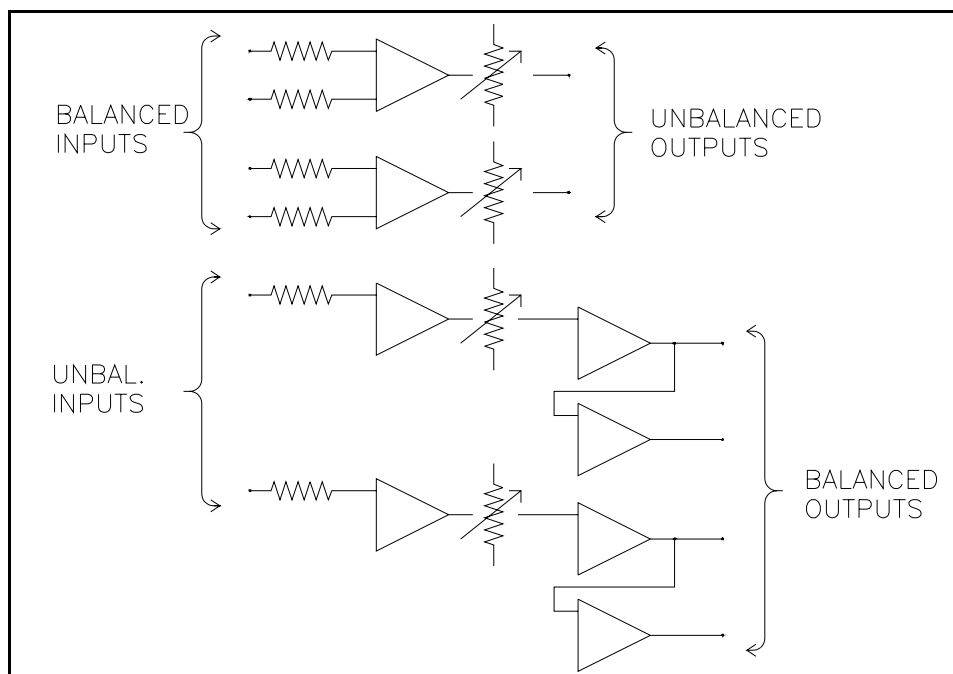
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1-1. Description

The **Dixon Systems** LineMatcher, Model LM100B, was designed to permit the interfacing of home entertainment and "semi-pro" equipment to the professional broadcast and recording environment. It is a high performance unit. On-board voltage regulators are employed and low noise, 1% metal film resistors are used throughout. It can be operated from either 110 or 220v AC, 50 or 60 Hz. The LM100B is ideal for such things as cassette machines, home tape recorders, VCRs, compact disc players, tuners etc.

Each unit consists of two active balanced input sections which provide a low impedance unbalanced output, and two active balanced line drivers which provide a +4dB output level from the -10 unbalanced inputs. Output gains are adjustable over a wide range to permit use with a variety of devices. Connections are made at the rear of the unit and gains may be adjusted via the front 19" rack mount panel. Two units may be mounted on a single panel.

1-2. Simplified Block Diagram



1-3. Theory of Operation

BALANCED TO UNBALANCED

Each of the two input sections employ half of U6, a NE5532, in an active balanced bridging configuration. The input impedance is 40K ohms. The gain of each of these sections has been adjusted so that an input of +4dBm provides a -10 level at the unbalanced output. The output level can be changed via potentiometer VR3 and VR4 mounted on the board. The output impedance is relatively low and is suitable for driving virtually any unbalanced input.

UNBALANCED TO BALANCED

Each balanced output section consists of half of U3, a NE5532 used as a differential pre-amplifier, and an NE5532 configured as a balanced line driver. The unit has been adjusted at the factory so that an unbalanced input of -10 will provide a +4dBm output. Gain is adjustable via the two potentiometer VR1 and VR2. Output impedance is approximately 60 ohms.

1-4. Unpacking and Inspection

Carefully examine the contents of the shipping carton for any sign of physical damage which could have occurred in transit.

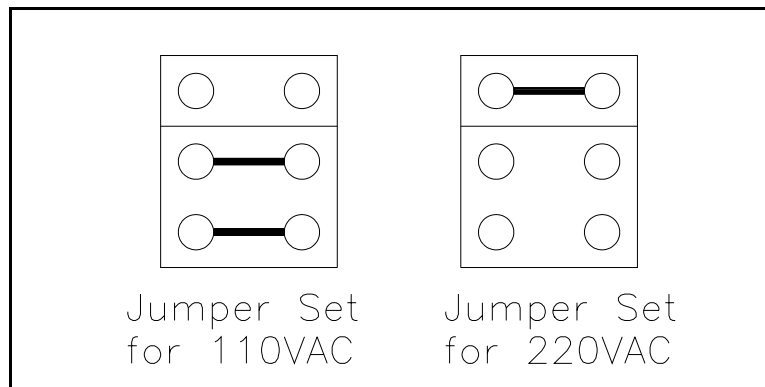
IF DAMAGE IS EVIDENT, DO NOT DESTROY ANY OF THE
PACKING MATERIAL OR CARTON AND IMMEDIATELY NOTIFY
THE CARRIER OF A POSSIBLE CLAIM FOR DAMAGE. SHIPPING
DAMAGE CLAIMS MUST BE MADE BY THE CONSIGNEE.

1-5. ENVIRONMENTAL CONSIDERATIONS.

The LM100B will operate satisfactorily over a wide range of ambient temperatures. If installed in an area with high heat producing equipment, adequate ventilation should be provided to prolong the life of components.

1-6. Wiring for Local Power Line Conditions

The LM100B is pre-wired at the factory for either 110 or 220 VAC operation as indicated on its shipping carton. To change the operating voltage requires that jumpers be installed on the PC board as shown below. These jumpers are located near the power transformer. To comply with existing electrical codes, the unit is supplied with a three-wire AC power cord with the ground pin connected to the chassis.



1-7 General

Your LM100B LineMatcher is ruggedly constructed and should provide years of trouble free use with normal care. All parts are conservatively rated for their application and workmanship meets the rigid standards professional users expect.

No special preventive maintenance is required.

1-7. Specifications

BALANCED TO UNBALANCED SECTION

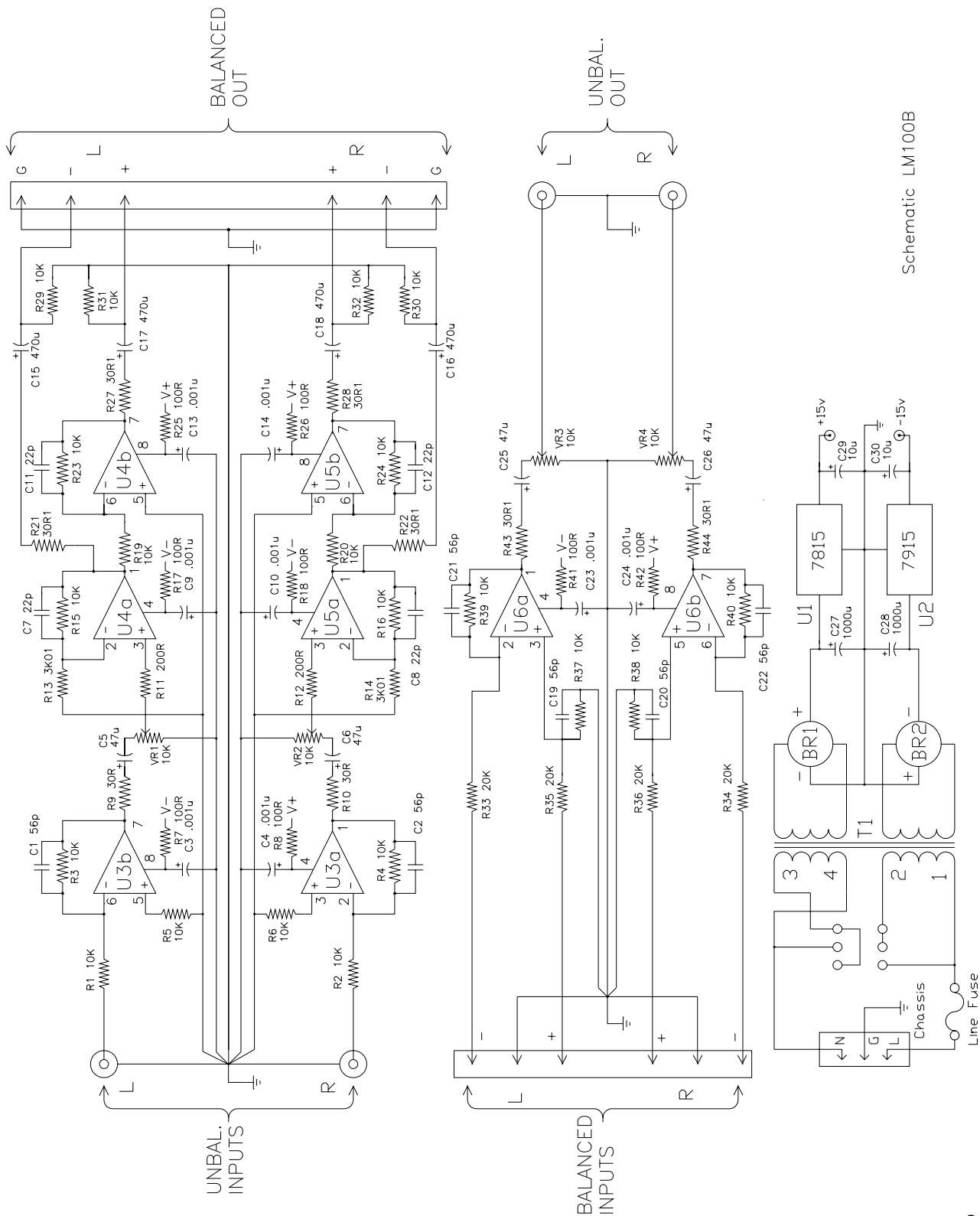
Maximum Input Level	+24 dB
Nominal Output Level	-10 dB
Input Impedance	40K Ohms
Output Impedance	< 100 Ohms

UNBALANCED TO BALANCED SECTION

Nominal Input Level	-10 dB
Maximum Output Level	> +22 dBm
Input Impedance	10K Ohms
Output Impedance	60 Ohms

BOTH SECTIONS

Noise	- 90dB
Frequency Response	+0, -.25dB 20 - 20 kHz
Distortion	better than .01%
Power requirements:	110v/220V AC 50 or 60hz



Schematic LM100B

Notes:

Dixon Systems

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