

# TLC 1635-1636-1637-1638

## RESISTIVE COMBINERS

**PROPRIETARY ITEM**

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**FEATURES:**

- 2-Wire Balanced Input
- 2-Wire Balanced Output
- Designed for Branching or Combining
- Excellent Impedance Match
- 1 MHz Frequency Response
- 0.5 Watt per Port Rating

**DESCRIPTION:**

The TLC 1630 Series of Resistive Combiners provide branching or combining means for balanced 600-ohm circuits. They feature 1% resistors for precise impedance match. Their 1 MHz frequency response assures signal fidelity in any telephone-type application. They can all be used with any ITI VF Amplifier to offset insertion losses and to provide improved isolation.

**APPLICATION:**

The TLC 1635, 6 & 7 Resistive Combiners may be used to combine several input signals into one output. Unused ports must be terminated with 600-ohms to preserve impedance match at all ports.

The TLC 1635, 6 & 7 Resistive Combiners may also be used in a branching mode to distribute one input through all the remaining ports. Unused output ports must be terminated with 600-ohms.

For branching applications where maximum power transfer is desired, such as the use of low-impedance power amplifiers to drive a number of balanced 600-ohm branches, the TLC 1638 Resistive Combiner should be used. Typical power amplifiers for such use would include the ITI Electronics TLC 444. In this application, unused ports need not be terminated.

**ORDERING INFORMATION:**

TLC 1635 3-Port Resistive Combiner  
 TLC 1636 4-Port Resistive Combiner

TLC 1637 5-Port Resistive Combiner  
 TLC 1638 5-Port\* Resistive Combiner

Amplifiers for use with the TLC 1630 Series of Resistive Combiners include:

TLC 222A Limiter  
 TLC 333 Line  
 TLC 334 Equalizer  
 TLC 335 Low-Pass  
 TLC 336 Wide-Band

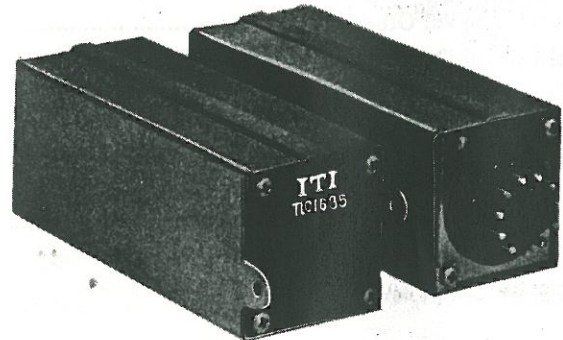
TLC 444 1-Watt Power  
 TLC 445 High-Level  
 TLC 555 Microphone  
 TLC 666A Bridging  
 TLC 777 Squelch

Mounts and accessories for any of the above amplifiers and combiners include:

TLC 909 or 910 KTU Mount – 2-sockets  
 TLC 916 KTU Mount – 3-sockets  
 TLC 904A Mounting Shelf – 19" Rack – 10-sockets  
 TLC 905A Mounting Shelf – 23" Rack – 12-sockets  
 TLC 914 Extractor Tool

\*NOTE: The TLC 1638 is designed for power distribution, and has 1-input and 4-output ports.

See Other Side for complete specifications.



TLC 1635 – 3-Port  
 TLC 1636 – 4-Port

TLC 1637 – 5-Port  
 TLC 1638 – 5-Port\*

# TELEPHONE LINE COMPONENTS by ITI

## TLC 1630 SERIES RESISTIVE COMBINERS SPECIFICATION and INSTALLATION INFORMATION

### SPECIFICATIONS:

Number of Ports .....	3	4	5	1 - In 4 - Out
Insertion Loss (dB)				
Any Port to All Other Ports .....	6±0.5	9.6±0.5	12±0.5	-
Input to All Other Ports (Voltage Ratio, dB) .....	-	-	-	6
Output Port-to-Port Loss (dB)				
@ 10-ohms Maximum Input Z .....	-	-	-	50 min.
Frequency Response (MHz) .....	1	1	1	1
Power Handling Capacity				
(Watts per Port) .....	0.5	0.5	0.5	2.0 - In 0.5 - Out
Size: 1-5/8" square x 5-5/8" overall				
Connector: 11-Pin Amphenol 86CP11				

TLC 1635	TLC 1636	TLC 1637	TLC 1638
3	4	5	1 - In 4 - Out
6±0.5	9.6±0.5	12±0.5	-
-	-	-	6
-	-	-	50 min.
1	1	1	1
0.5	0.5	0.5	2.0 - In 0.5 - Out

### CONNECTIONS

Port	TLC 1635 Pins	TLC 1636 Pins	TLC 1637 Pins	TLC 1638 Pins
1	1-2	1-2	1-2	1-2(input)
2	3-4	3-4	3-4	3-4
3	5-6	5-6	5-6	5-6
4	—	7-8	7-8	7-8
5	—	—	9-10	9-10
Chassis	11	11	11	11

Figure 1. Pin connections. Except for TLC 1638 where pins 1 & 2 are the input port, any port may be used either for input or output.

### INSTALLATION:

The TLC 1630 Series of Resistive Combiners may be installed in mountings listed under ORDERING INFORMATION, along with amplifiers required by the application. Figure 1 shows pin connections to the combiners.

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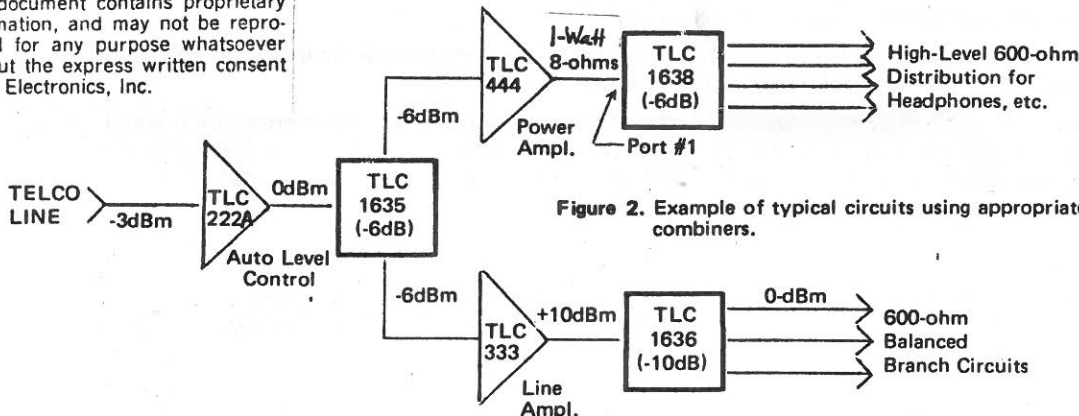


Figure 2. Example of typical circuits using appropriate amplifiers and resistive combiners.

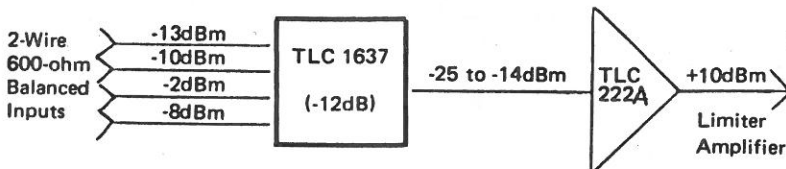


Figure 3. Example of typical combining circuit using a TLC222A Limiter Amplifier to compensate for insertion losses of a resistive combiner and normalize output of various input signal levels.

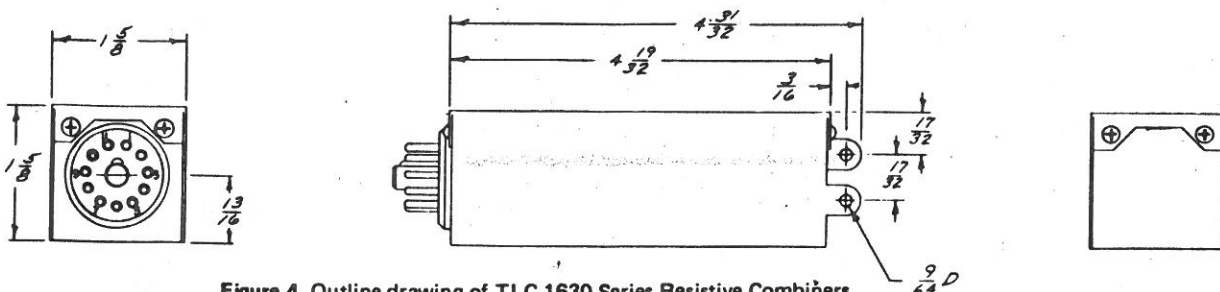


Figure 4. Outline drawing of TLC 1630 Series Resistive Combiners.