



## FEATURES

- Optimized for trunking on UHF channels
- Easy to order, configure and install
- Two versions - dispatch and interconnect
- Conventional tone/DPL repeater cross-busy support

## INTRODUCTION

Years of experience with LTR® systems went into the design of the Model 452 and 459 Trunking Controllers. These products are cost effective, full-featured LTR repeater controllers incorporating support for conventional channel cross-busy operation on the same repeater. Companion to the dispatch Model 452, the Model 459 is available for channels designed for telephone interconnect.

A complete LTR trunking system consists of multiple repeaters equipped with one Model 452 or 459 per channel. Mixed and matched as needed for telephone line capacity, up to 20 controllers can be used on a system.

- Telephone Interconnection — The Model 452 is a dispatch repeater controller. If telephone access to/from radio users on the system is desired, one or more channels of the system must be equipped with Model 459 controllers. Interconnect features include:
  - End-End (POTS) and 4-wire E&M trunk interfaces are available.
  - User recordable voice prompts are available.
  - Built-in modem for programming and downloading of billing and statistical usage information.
  - Call Detail Records of all phone calls are stored in memory. Up to 6000 calls per Model 459 can be stored until downloaded by the management computer over the built-in modem or RS-232 port.
  - Integrated audio compandor significantly improves audio fidelity when enabled in the radio and Controller.

- AutoNet multisite networking is available. Two sites equipped with Model 459s can be directly connected using E & M via microwave circuits. This creates a very fast two-site solution. More than two sites can be tied together using the public-switched telephone network (PSTN) or a private PBX.
- Ghost Repeater IDs double the number of LTR IDs available per channel to 500 on systems up to 10 channels. This helps small fill-in systems support all the users from larger systems without running out of assignable LTR IDs.
- Airtime Logging keeps track of prime and non-prime time used by each user. Up to 194 days of airtime is stored in nonvolatile memory until uploaded to the management computer.
- Shared Channel Support makes adding the Model 452 or 459 to an existing tone panel equipped repeater an easy task. A dedicated connector on the back of the Trunking Controller coupled with dedicated hardware and software support inside the controller accepts the repeater connections directly from the tone panel. Installation is as easy as disconnecting the tone panel from the repeater, plugging it into the Trunking Controller and interfacing the Controller to the repeater normally. Operation of the tone panel is left unaffected, requiring no reprogramming of users or resetting of levels.
- PC-based Programming simplifies system programming. Programming of all site specific and user profiles is performed off-line and subsequently downloaded to a controller at the site.
- Easy Installation is assured due to front panel access to all level controls and low-cost RJ-45 data-style cables between the Controllers.
- Highly Configurable software settings allow the Controllers to be customized for virtually any application.

## SPECIFICATIONS

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### GENERAL

Trunking Protocol:	EFJohnson® LTR
Capacity:	250 IDs per channel, 500 per channel with Ghost Repeater setting, 5000 total per system
Front Panel Controls:	12 position configuration dip-switch, 4 Wire E&M From and To Telco levels (M459 only), receiver audio, receiver data, squelch, transmitter audio, transmitter data
Front Panel Indicators:	Power, Sync, Poll (control bus activity), Status, Transmit, Decode (valid LTR data), Carrier (receiver activity), DTMF and Telco (M459 only)
Power Requirements:	+10 to 16 VDC, 450 mA (M452), 550 mA (M459)
Environmental:	0 to 65 degrees Celsius, 0-90% humidity non-condensing
Physical:	19 inch rack mount; 6.95" deep, 17.2" inch wide tray, 1.75" high (M452) 3.5" high (M459), 4 lbs (approx.)

### BACK PANEL

Transmit Audio:	Adjustable -30 to +6 dBm, 2 kohm impedance
Receive Audio:	Discriminator or line level, adjustable -30 to +10 dBm, 50 kohm impedance
TX Data:	Adjustable 50 mV to 2 V pk-pk, 1 kohm impedance
PTT Output:	FET transistor pulls to ground, 18 Volt, 100 mA max.
COR input:	Polarity selectable, 2.5 V nominal threshold
TX-Frequency :	Polarity selectable, 2.5 V nominal Monitor threshold
Control Bus:	2 RJ-45, proprietary connectors bussing to other Model 452 or 459 units
Aux Interface :	Power, transmit, receive, PTT and carrier detect multiplexed inputs and outputs for external tone panel

### MODEL 459 INTERCONNECT

Connector:	RJ-11
4 wire E&M levels:	Transmit: -24 to -9 dBm; Receive: -24 to +10 dBm
Modem :	300 baud Bell 103 and 1200 baud Bell 212



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