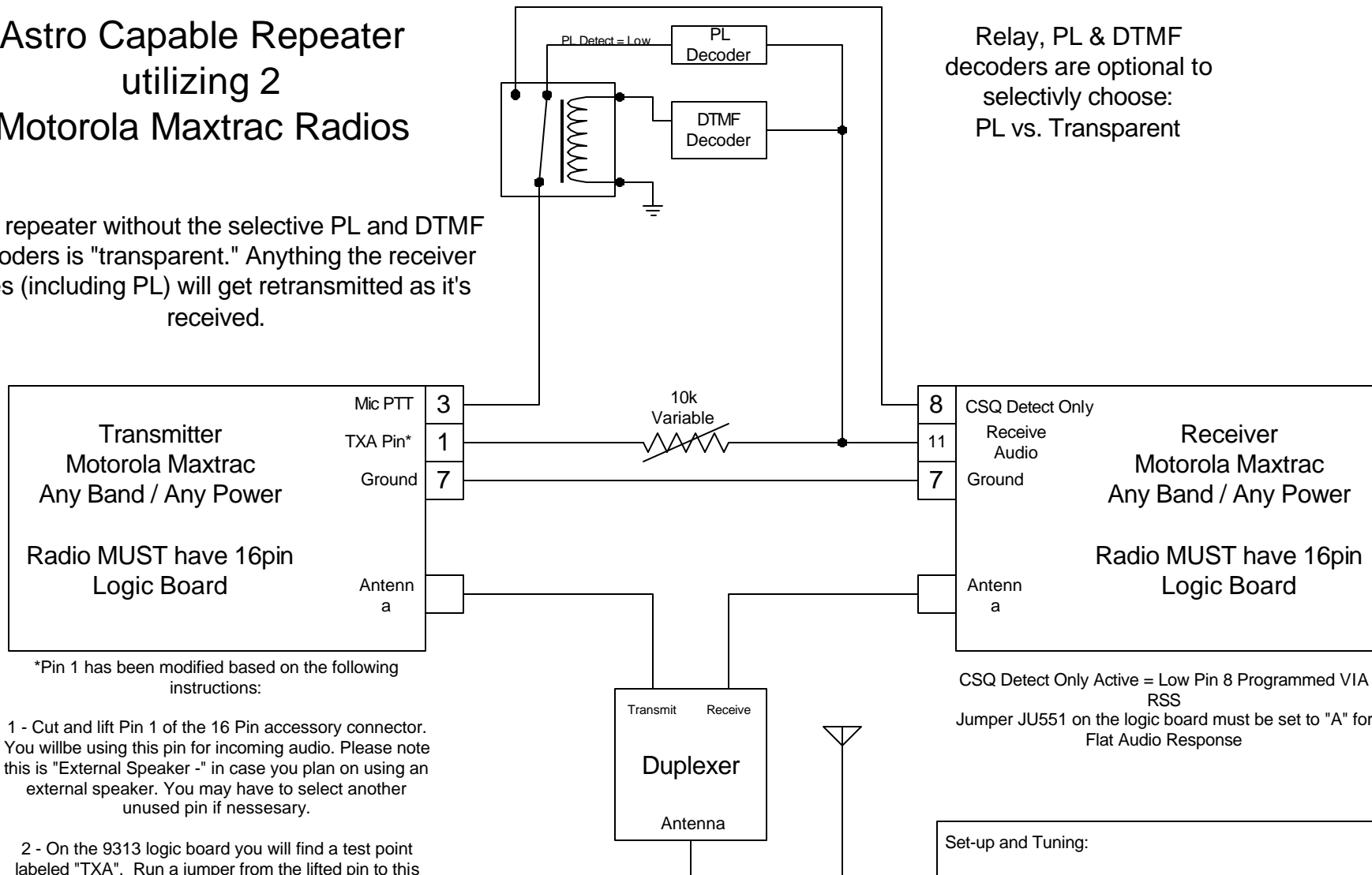# Astro Capable Repeater utilizing 2 Motorola Maxtrac Radios

This repeater without the selective PL and DTMF decoders is "transparent." Anything the receiver sees (including PL) will get retransmitted as it's received.

PL Detect = Low

PL Decoder

DTMF Decoder

Relay, PL & DTMF decoders are optional to selectivly choose: PL vs. Transparent

**Transmitter**
Motorola Maxtrac
Any Band / Any Power

Radio MUST have 16pin Logic Board

| | |
|---|---|
| Mic PTT | 3 |
| TXA Pin* | 1 |
| Ground | 7 |
| Antenna | |

10k Variable

| | |
|---|---|
| 8 | CSQ Detect Only |
| 11 | Receive Audio |
| 7 | Ground |
| | Antenna |

**Receiver**
Motorola Maxtrac
Any Band / Any Power

Radio MUST have 16pin Logic Board

*Pin 1 has been modified based on the following instructions:

1 - Cut and lift Pin 1 of the 16 Pin accessory connector. You willbe using this pin for incoming audio. Please note this is "External Speaker -" in case you plan on using an external speaker. You may have to select another unused pin if nessesary.

2 - On the 9313 logic board you will find a test point labeled "TXA". Run a jumper from the lifted pin to this point.

3 - You will notice 2 solder pads adjacent to the TXA point. You wil need to add a 10k Chip resistor to this spot.

4 - Retune the radio VIA RSS for maximum deviation @ 3Khz +/- 0.2KHz.

Duplexer

Transmit    Receive

Antenna

CSQ Detect Only Active = Low Pin 8 Programmed VIA RSS
Jumper JU551 on the logic board must be set to "A" for Flat Audio Response

Set-up and Tuning:

1 - Set Both the required receive and transmit radios for CSQ operation.

2 - While repeating an Astro signal, adjust the 10k variable resistor to bring the Astro data level just below clipping via a service monitor.

Astro Deviation should be 3.0Khz (2.83 exactly) +/- 0.2KHz on the output of the transmitter.

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|---|
| February 3, 2003 |
| Revision 1 by Tim Warth |