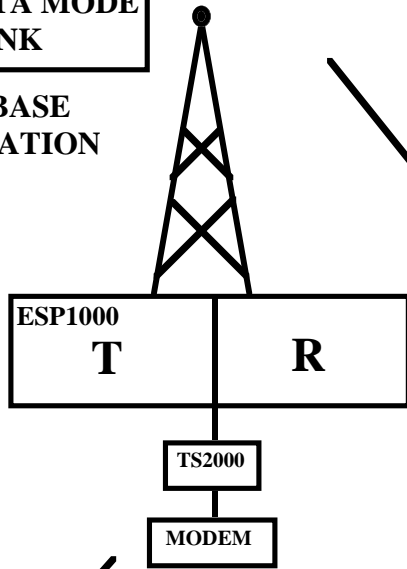


**REPEATER IN DATA MODE WITH ON-LINE LINK**

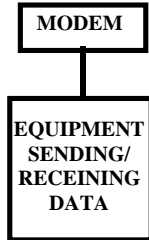
**1**

**BASE STATION**



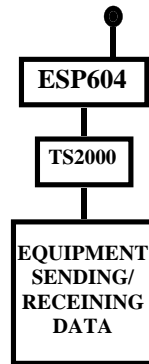
SPEED RATING  
~50ms  
~200ms

TELCO LINK



**CONTROL STATION**

**REMOTE**



**CONFIGURATION:  
CONTROL STATION**

This is most likely the fastest configuration for data. It eliminates the setup times required for the ESP604 at the control station (savings of about 140ms). The TELCO line (or some other link) is assumed always on-line.

**BASE STATION**  
The repeater can be left on (savings of about 140ms), and repeater can be put into 'WIDE BAND MODE' (additional savings of about 250 ms)

**REMOTE**  
Transmitter setup for the Remote will be about 140ms.

**OVERALL TIMING**

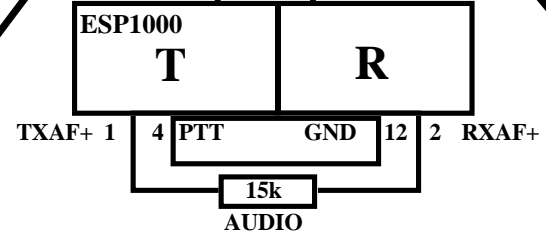
Control Station to Remote delays aprox. <50ms.

Remote Station to Control Station delays aprox. <200ms.

**REPEATER IN REPEAT DATA MODE (CONSTANT TX)**

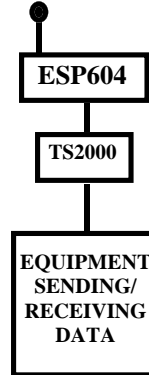
**2**

**BASE STATION**



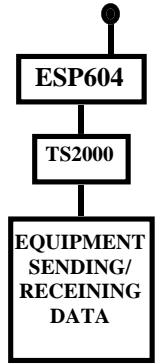
SPEED RATING  
~140ms  
~140ms

TXAF+ 1 4 PTT GND 12 2 RXAF+  
15k  
AUDIO



**CONTROL STATION**

**REMOTE**



**CONFIGURATION:  
CONTROL STATION**

This is a quick configuration. Radio has a setup time of ~140 ms before data can be sent.

**BASE STATION**

Repeater is setup in data mode with COR connected to PTT. Audio out from the receiver is sent to audio in on the transmitter.

**REMOTE**

Same as Control Station.

**OVERALL TIMING**

Control Station to Remote delays aprox. ~140ms.

Remote Station to Control Station delays aprox. ~140ms.

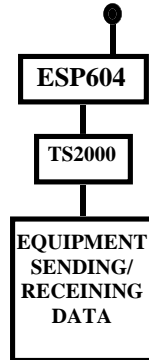
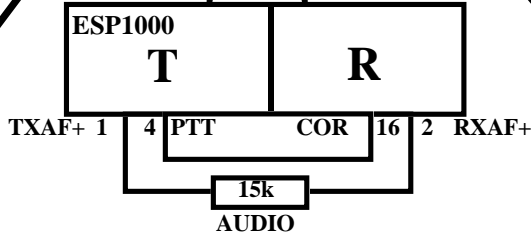
\*\* Note this configuration has only been tested on the bench, you would need to verify this configuration on your own. Tests show that if control station has solid signal to the repeater, repeated signal will not degrade enough to cause receive audio distortion.

**REPEATER IN REPEAT DATA MODE**

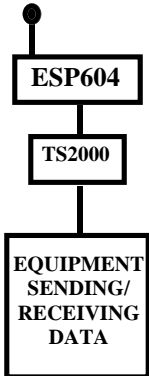
**3**

SPEED RATING  
~240ms  
~240ms

BASE STATION



REMOTE



CONTROL STATION

**CONFIGURATION: CONTROL STATION**

This is a quick configuration. Radio has a setup time of 240 ms before data can be sent.

**BASE STATION**

Repeater is setup in data mode with COR connected to PTT. Audio out from the receiver is sent to audio in on the transmitter.

**REMOTE**

Same as Control Station.

**OVERALL TIMING**

Control Station to Remote delays aprox. ~240ms.

Remote Station to Control Station delays aprox. ~240ms.

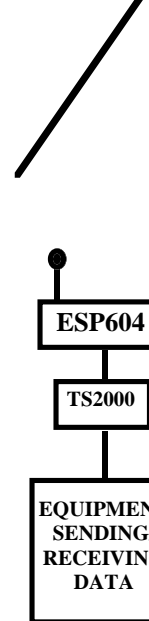
\*\* Note this configuration has only been tested on the bench, you would need to verify this configuration on your own. Tests show that if control station has solid signal to the repeater, repeated signal will not degrade enough to cause receive audio distortion.

**REPEATER IN VOICE MODE SENDING LOW SPEED DATA**

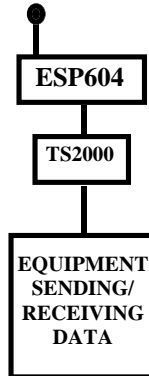
**4**

SPEED RATING  
~450ms  
~450ms

BASE STATION



REMOTE



CONTROL STATION

**CONFIGURATION: CONTROL STATION**

This is the slowest configuration. The Control Station must wait until the repeater is ready to send data. Radio has a setup time (aprox 100ms). It requires the radio to encode LTR data codes, then the repeater needs to decode the LTR data codes (aprox. time 350ms).

**BASE STATION**

Described above.

**NOTE:** Repeater cannot be left on in this mode without special external logic. Repeater will shut down after 10 minutes. (Repeater is in voice mode).

**REMOTE**

Same as Control Station.

**OVERALL TIMING**

Control Station to Remote delays aprox. ~450ms.

Remote Station to Control Station delays aprox. ~450ms.