**MSR-2000**

**Repeater Inventory**

|  |  |  |  |
| --- | --- | --- | --- |
| **Nomenclature** | **Part Number** | **Note** | **PDF Page #** |
| **Station** | **C73KSB-3106BT** | **90-120 Watt VHF Continuous Duty Repeater w/ PL** |  |
|  |  |  | **6881061E50C** |
| **Receiver** | **TRD6302APR** | **146 – 174 MHz 10.7 MHz IF Duplex w/ Filtering** | **69** |
| **Exciter** | **TLD9242APR** | **146 – 174 MHz Duplex w/ Filtering** | **93** |
| **PA** | **TLD2602A** | **150.8 – 162 MHz 110 Watt Continuous Duty** | **108** |
|  |  |  | **68P81061E40C** |
| **Backplane** | **TRN5083BPR** | **Duplex Backplane Interconnect Board**  | **51** |
| **R1** | **TRN9689** |  | **89** |
| **Squelch Gate** | **TRN5324APR** |  | **74** |
| **Station Control** | **TRN5321APR** |  | **57** |
| **Time Out Timer** | **TRN5295APR** | **Repeater: Disable / Line: 4 Minutes** | **76** |
| **PL** | **TRN5073APR** | **82.5 Hz** | **115** |

**WM4B Repeater**

**MSR-2000 Pre/Post Mod Jumper Settings**

**Fully-Optionable and Duplex Backplanes**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Type of Station** | **JU1** | **JU2** | **JU3** | **JU4** | **JU5** | **JU6** | **JU7** | **JU8** | **JU9** | **JU10** | **JU11** | **JU12** | **JU13** | **JU14** | **JU15** |
| **WM4B –****Carrier Sq.****Pre-Mod** | **IN** | **OUT** | **OUT** | **IN** | **IN** | **OUT** | **OUT** | **OUT** | **OUT** | **OUT** | **OUT** | **OUT** | **OUT** | **OUT** | **OUT** |
| **WM4B –** **PL****Post-Mod** | **IN** | **OUT** | **OUT\*** | **OUT** | **IN** | **OUT** | **OUT** | **OUT** | **OUT** | **OUT** | **OUT** | **OUT** | **OUT** | **OUT** | **OUT** |
| **Base –** **DC Control**  | **IN** | **OUT** | **IN** | **OUT** | **IN** | **OUT** | **OUT** | **OUT** | **4** | **5** | **6** | **7** | **8** | **8** | **OUT** |
| **Base –** **Tone Control**  | **OUT** | **OUT** | **OUT** | **OUT** | **3** | **3** | **3** | **OUT** | **4** | **5** | **6** | **7** | **8** | **8** | **OUT** |
| **RT RPTR –** **Non-wireline**  | **IN** | **OUT** | **OUT** | **IN** | **IN** | **OUT** | **OUT** | **OUT** | **4 (PL)** | **5 (OUT)** | **6 (OUT)** | **7 (OUT)** | **8 (OUT)** | **8 (OUT)** | **OUT** |
| **RT RPTR –** **DC Control**  | **IN** | **1** | **2** | **OUT** | **IN** | **OUT** | **OUT** | **OUT** | **4** | **5** | **6** | **7** | **8** | **8** | **OUT** |
| **RT RPTR –** **Tone Control**  | **OUT** | **OUT** | **OUT** |  |  |  |  |  |  |  |  |  |  |  |  |
| **RA RPTR**  | **IN** | **OUT** | **OUT** | **IN** | **IN** | **OUT** | **OUT** | **OUT** | **4** | **5** | **6** | **7** | **8** | **8** | **OUT** |
| **RA Base –** **DC Control**  | **IN** | **OUT** | **OUT** | **IN** | **IN** | **OUT** | **OUT** | **OUT** | **4** | **5** | **6** | **7** | **8** | **8** | **OUT** |
| **RA Base –** **Tone Control**  | **OUT** | **OUT** | **OUT** | **OUT** | **IN** | **OUT** | **OUT** | **OUT** | **4** | **5** | **6** | **7** | **8** | **8** | **OUT** |

**1. JU2 normally OUT, IN when TLN5257A Repeater Control Module used**

**2. JU3 normally IN, OUT when Option C143 (Remote RPTR Control) used \* NOTE: JU3 Jumpered to Remote Repeater PTT**

**3. Normally, JU5 IN and JU6 and 7 OUT; JU5 OUT and JU6 and 7 IN for 4-freq. RX and TX operation**

**4. JU9 IN for Carrier Squelch and DPL; OUT for PL**

**5. JU10 normally OUT; IN when Option C13 (Remote Squelch Control) used**

**6. JU11 normally OUT; IN for Low Band RCVR 1**

**7. JU12 normally OUT; IN for Low Band RCVR 2**

**8. JU13 and 14 normally OUT, except as follows:**

 **a. If a normal base station with battery alert tone is used, JU13 is IN and JU14 is OUT**

 **b. If a RPTR station with battery alert tone is used, JU14 is IN and JU13 is OUT**

**Jumper Functions**

**JU1 Un-notched mic hi, exciter audio hi, repeater audio**

**JU2 R2 mute, page; Rptr. on; R2 mute atten., rptr. turn off, R2 osc.**

**JU3 “, TX PL inhibit, line driver disable no. 2**

**JU4 F1 oscillator ground, F1 channel element, keyed A- enable**

**JU5 PL disable control**

**JU6 R1 squelch attenuation, R1 osc. gnd.**

**JU7 R2 osc. gnd., rptr. turn off**

**JU8 A+; antenna relay protect ckt., (CR1 anode & R2), 4-freq. Reg. 5.6 VDC**

**JU9 Keyed A+, delayed keyed A+**

**JU10 R1 discriminator input, R1 squelch**

**JU11 Ground: line driver ground, VR1 anode, alert tone ground, spkr. -; low band rcvr. 1 extender on/off (source)**

**JU12 “ “ “ “ “ “ “ “ “ “ ; low band rcvr. 2 extender on/off (source)**

**JU13 R1 input; line driver output (un-notched receiver and/or intercom audio), battery alert tone**

**JU14 Exciter audio hi, repeater audio, battery alert tone**

**JU15 Key inhibit, wild card 3, matrix 3**

**TRN5321 Station Control Module**

**JU1 IN for line levels below 0 dBm, OUT for line levels above 0 dBm**

**JU2 thru JU8 IN for all wireline control base stations and (RT) repeaters**

**JU9 IN for PL operation, OUT for carrier squelch**

**JU10 OUT for non-wireline repeaters**

**JU11 OUT**

**TRN5324 Squelch Gate Module**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **APPLICATION** | **JU1** | **JU2** | **JU3** | **JU4** | **JU5** | **JU6** | **JU7** | **JU8** | **JU9** | **JU10** | **JU11** | **JU12** | **JU13** | **JU14** | **JU15** |
| **WM4B –****Carrier Sq.****Pre-Mod** | **OUT** | **OUT** | **IN** | **OUT** | **IN** | **IN** | **IN** | **IN** | **IN** | **IN** | **IN** | **IN** | **ZERO** | **CS** | **CS** |
| **WM4B –** **PL****Post-Mod** | **OUT**  | **OUT**  | **IN**  | **IN PL**  | **IN**  | **IN**  | **IN**  | **IN**  | **IN**  | **IN**  | **IN**  | **OUT**  | **2**  | **IN PL**  | **CS** |
| **Line Control Base**  | **OUT**  | **OUT**  | **IN**  | **OUT**  | **OUT**  | **OUT**  | **IN**  | **IN**  | **IN**  | **OUT**  | **OUT**  | **OUT**  | **Selected Delay**  | **IN** |  |
| **Repeater (RT) Station w/o wireline control**  | **OUT**  | **OUT**  | **IN**  | **IN PL**  | **IN**  | **IN**  | **IN**  | **IN**  | **IN**  | **IN**  | **IN**  | **IN**  | **2**  | **IN CS**  | **IN PL**  |
| **Repeater (RT) Station with wireline control**  | **OUT**  | **OUT**  | **IN**  | **IN PL**  | **OUT**  | **OUT**  | **IN**  | **IN**  | **IN**  | **IN**  | **OUT**  | **IN**  | **Selected Delay**  | **IN CS**  | **IN PL**  |
| **Base (RA) Station**  | **IN**  | **OUT**  | **IN**  | **IN PL**  | **NOTE**  | **NOTE**  | **IN**  | **\***  | **\***  | **OUT**  | **OUT**  | **OUT**  | **Selected Delay**  | **IN CS**  | **IN PL**  |
| **Repeater (RA) Station**  | **OUT**  | **OUT**  | **IN**  | **IN**  | **NOTE**  | **NOTE**  | **OUT**  | **\***  | **\***  | **OUT**  | **OUT**  | **OUT**  | **Selected Delay**  | **IN CS**  | **IN PL**  |
| **Community Repeater (RA) Station**  | **OUT**  | **OUT**  | **IN**  | **IN**  | **IN**  | **IN**  | **IN**  | **IN**  | **IN**  | **IN**  | **IN**  | **IN**  | **Selected Delay**  | **OUT**  | **IN**  |

**Note: Jumpers JU5 and JU6 are OUT for tone controlled stations, and IN for DC controlled stations**

**R1 Audio and Squelch Modules TRN9689**

|  |  |  |
| --- | --- | --- |
| **Jumper** | **IN** | **OUT** |
| **JU1**  | **No PL filter used**  | **PL filter used**  |
| **JU2**  | **For *Spectra-Tac®* option**  | **Normally**  |
| **JU101**  | **Normally**  | **For Remote Squelch option**  |
| **JU102**  | **For PL, DPL, repeater, Single Tone Decoder, and Remote Squelch option**  | **Normally**  |
| **JU103**  | **For Remote Squelch option**  | **Normally**  |
| **JU104**  | **For PL “OR” squelch**  | **For PL “AND” squelch**  |
| **JU105**  | **For PL squelch**  | **For carrier squelch**  |
| **Diode** | **IN**  | **OUT**  |
| **CR1**  | **For Intercom option**  | **Normally**  |
| **CR2**  | **Normally**  | **For Intercom option**  |
| **CR106**  | **Normally**  | **For repeater**  |

**Tone *Private-Line®* Encoder-Decoder Module TRN5073**

|  |  |  |  |
| --- | --- | --- | --- |
| **Jumper** | **TxA RxA** | **Simplex TxA RxB** | **Duplex TxA RxB** |
| **JU1**  | **IN**  | **IN**  | **OUT**  |
| **JU2**  | **IN**  | **IN**  | **OUT**  |
| **JU3**  | **IN**  | **OUT**  | **OUT**  |
| **JU4**  | **IN**  | **OUT**  | **IN**  |
| **JU5**  | **OUT**  | **OUT**  | **IN**  |
| **JU6**  | **IN**  | **IN**  | **OUT**  |
| **JU7**  | **IN**  | **IN**  | **OUT**  |
| **JU8**  | **Normally IN, OUT when using 67 Hz reed** |

**Receiver Module TRD6302**

|  |
| --- |
| **Jumper** |
| **JU101** | **IN** | **OUT for Simplex Operation. IN for Repeater Operation** |
| **JU102** | **OUT** | **OUT for Receiver with Preamp** |
| **JU103** | **IN** | **IN on Single Frequency Radios (To Enable F1 Channel Element)**  |
| **JU104** | **IN** | **As required to bus 2 or more Channel-Select lines to a single Channel Element when these channels use the same receiver frequency.** |
| **JU105** | **IN** |
| **JU106** | **IN** |
| **JU107** | **IN** |
| **JU108** | **IN** |

**Exciter Module TLD9242**

|  |
| --- |
| **Jumper** |
| **JU501** | **OUT** |  |
| **JU502** | **IN** |  |
| **JU60103** | **OUT** |  |
| **JU602** | **IN** |  |
| **JU603** | **IN** |  |
| **JU604** | **IN** |  |
| **JU605** | **IN** |  |

**Time-Out Timer TRN5295**

|  |
| --- |
| **Jumper** |
| **Repeater** | **Disable** |
| **Line/Local****IN** | **4 Minutes** |