

| Adjustment                                   | No. | Adjustment Condition & Tuning                                                                                                                                                                                                                                                                   | Value                 | REF No.             | CK. Point    |
|----------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------|--------------|
| Reference Frequency Adjustment& Confirmation | 1   | <p>Connect a frequency counter to the ANT terminal through an attenuator.</p> <p>Use the compatible software on PC and adjust the following functions via it:</p> <p>Frequency :145.00MHz</p> <p>After the adjustment, confirm that the designated frequency becomes inside specifications.</p> |                       | Software Adjustment | ANT Terminal |
| TX Output                                    |     | <p>Attention 1) Connect a power-meter with 100W maximum range.</p> <p>Attention 2) Use the accessory cable and Connect it to 13.8V power supply.</p>                                                                                                                                            | Inside Specifications | -                   | ANT Terminal |
|                                              | 1   | <p>Adjust the transmission frequency on 146.000MHz and set the following condition via software.</p> <p>HI POWER :75W<br/>MID POWER :25W<br/>(For Version #04, 22W)<br/>MID-LOW POWER :10W<br/>LOW POWER :5W</p>                                                                                | Instructions value    | Software Adjustment | ANT Terminal |
|                                              | 2   | Confirm the TX output and TX current inside specifications.                                                                                                                                                                                                                                     | Inside Specifications | -                   | ANT Terminal |
| TX Spurious                                  | 1   | Connect a spectrum analyzer to the ANT terminal through an attenuator and transmit un-modulation signal.                                                                                                                                                                                        |                       |                     |              |
|                                              | 2   | Confirm the spurious inside specifications.                                                                                                                                                                                                                                                     | Inside Specifications | -                   | ANT Terminal |

| Adjustment                           | No. | Adjustment Condition & Tuning                                                                                                                                                                                                                                                                       | Value                  | REF No.              | CK. Point                    |
|--------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------|------------------------------|
| Modulation Adjustment & Confirmation | 1   | <p>The adjustment of WIDE/NARROW switching function,<br/>Set on WIDE mode.</p> <p>Connect a detector to the ANT terminal through an attenuator and transmit the signal, set it for amateur band center as follows.</p> <p>HPF :OFF<br/>LPF :20KHz<br/>De-emphasis :OFF<br/>Level-meter :(P-P)/2</p> |                        |                      |                              |
|                                      | 2   | <p>Connect a low frequency oscillator to EXT MIC terminal and set as:</p> <p>Modulation frequency :1KHz<br/>Input level:<br/>80mv rms (#05, 15, 25, 35)<br/>20mv rms (Another version)</p>                                                                                                          |                        |                      |                              |
|                                      | 3   | <p>Set on Transmission mode and prepare the software on PC, Adjust the maximum modulation level as:</p> <p>Deviation :+/-4.2KHz</p>                                                                                                                                                                 | +/-4.2KHz              | Software Adjustme nt | ANT Terminal<br>MIC Terminal |
|                                      | 4   | <p>Confirm the maximum modulation level at WIDE/ANARROW modes to become inside specifications.</p>                                                                                                                                                                                                  | Inside Specificati ons | -                    | ANT Terminal<br>MIC Terminal |
|                                      | 5   | <p>Adjust low frequency oscillator for output level and confirm the modulation level at WIDE/NARROW modes to become inside specifications.</p>                                                                                                                                                      | Inside Specificati ons |                      | ANT Terminal<br>MIC Terminal |
| DTCS Wave Form                       |     | <p>The adjustment of WIDE/NARROW switching function,<br/>Set on WIDE mode.</p>                                                                                                                                                                                                                      |                        |                      |                              |
|                                      | 1   | <p>Connect a detector to the ANT terminal through an attenuator and transmit the signal, set it for amateur band center as follows.<br/>Observe the shape of signal.</p> <p>HPF :OFF<br/>LPF :20KHz<br/>De-emphasis :OFF<br/>Level-meter :(P-P)/2</p>                                               |                        |                      |                              |

| Adjustment                                     | No. | Adjustment Condition & Tuning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Value                    | REF No.                | CK. Point       |
|------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------------|-----------------|
| DTCSS<br>CTCSS<br>Adjustment &<br>Confirmation | 1   | <p>Without input from MIC, transmit the signal and adjust the DTCS BAL via software until DTCS wave shape becomes a straight line preferably.</p> <p>Attention 1) For a correct adjustment, A linear modulation analyzer is necessary with ability of detect the DC component.</p> <p>Attention 2) Do not change the initial value of DTCS decode bit.</p> <p>Connect a linear modulation analyzer to the ANT terminal through an attenuator and set each signaling output ability as:</p> <p>DTCS     CODE 023 (Normal code)<br/>CTCSS    88.5MHz</p> <p>Set the linear modulation analyzer for condition below:</p> |                          | Software<br>Adjustment | ANT<br>Terminal |
|                                                | 2   | <p>HPF                :OFF<br/>LPF                :20KHz<br/>De-emphasis     :OFF<br/>Level-meter      :(P-P)/2</p> <p>Without input from MIC, transmit the signal and confirm the following condition inside specifications as:</p> <p>DTCS :    +/- 0.5KHz ~ +/-1.0KHz<br/>CTCSS: +/-0.5KHz ~ +/-1.0KHz</p> <p>Attention) For a correct adjustment, A linear modulation analyzer is necessary with ability of detect the DC component.</p>                                                                                                                                                                          | Inside<br>Specifications | -                      | ANT<br>Terminal |

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|---------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|--------------|
| TX<br>S/N<br>Confirmation | 1   | <p>Connect a linear modulation analyzer to the ANT terminal through an attenuator and set the condition below as:</p> <p>HPF :50Hz<br/> LPF :20KHz<br/> De-emphasis :OFF<br/> Level-meter :(P-P)/2</p> |                       |         |              |
|                           | 2   | Add 1KHz via a low frequency oscillator to external MIC terminal and set the modulation level for 70% of standard modulation.                                                                          |                       |         |              |
|                           | 3   | Confirm the transmission output and Linear modulation analyzer output to become inside specifications.                                                                                                 | Inside Specifications | -       | ANT Terminal |