INTRODUCTION

Thank you for purchasing the CT-16 SATELLITE INTERFACE UNIT.

The CT-16 allows you easy tuning for instant satellite communications using an ICOM CI-V System.

For radios using the CI-IV System (IC-751, IC-751A, IC-R71A/E/D, IC-271A/E/H, IC-471A/E/H and IC-1271A/E), ICOM offers the UX-14 CI-IV/Ci-V CONVERTER for conversion to the CI-V System for use with the CT-16.

CONTROL FUNCTIONS

1. **POWER INDICATOR**
   This indicator lights up when the CT-16 turns ON and blinks when the downlink receiver is over the band edge of the uplink transmitter control.

2. **POWER SWITCH**
   This switch turns power to the CT-16 ON and OFF.

3. **UPLINK SWITCH**
   This switch selects the uplink transmitter in the high or low band for tuning control purposes.

4. **TRACKING SWITCH**
   This switch selects the status of downlink control in the same or opposite direction of the uplink transmitter.

5. **CI-V ADDRESS SWITCHES**
   These switches must be set for the address for each radio as shown below in PRE-OPERATION.

6. **9-15V DC IN JACK**
   This jack is used for 9 ~ 15V DC input (more than 25mA). The optional BC-25U/E, BC-26E or BC-27 can also be connected here.

7. **CI-V REMOTE JACKS**
   These jacks are used for exchanging data using the CI-V System.

PRE-OPERATION

IC-275A/E/H  IC-475A/E/H  IC-761

1: Black indicates switch positions
Switches 1 ~ 7: address setting  Switch 8: no connection

- The IC-735 and IC-R7000 cannot be controlled by the CT-16.
- The Transceiver Flag Switch (located inside the radio) must be turned OFF in order to use the CT-16.
  IC-275A/E/H: S3 SWITCHES Switch 8 on the LOGIC UNIT.
  IC-475A/E/H: S3 SWITCHES Switch 8 on the LOGIC UNIT.
  IC-761: S1 SWITCH (s-3) on the LOGIC (A) UNIT.
- When using the UX-14, set switch 7 in the OFF position.
- The baud rate of the radio must be set at 1200bps.

(1) Connect the supplied control cables between the REMOTE CONTROL JACK on the radios and the CI-V REMOTE JACKS (1) and (2) on the CT-16.

CI-V REMOTE JACKS (1) and (2) are parallel connected inside CT-16, so either radio can be connected to either jack.

(2) Connect an external power source to the DC-IN JACK using the supplied DC cable.

(3) Set the CI-V ADDRESS SWITCHES in the same positions as the remote control default switches inside the transceiver.
OPERATION

OPERATION RULES:

• LSB mode should be used for uplinking and USB mode for downlinking (except with the RS-5 and RS-7).

• When using the digital mode of the FO-12, FM mode should be used for uplinking and SSB mode for downlinking.

• To ensure normal operations, clarity adjustment should be made on the uplink transmitter while using the audio of the downlink receiver.

• For digital mode operation the CT-16 should be turned OFF and clarity adjustment should be made on the downlink receiver.

LOOP TEST:
Monitor the feedback signal through the satellite to check the access condition between your radio and the satellite station.

DOPPLER EFFECT:
When a satellite station approaches your radio station the receive frequency may appear higher than it is.

When a satellite station leaves your radio the receive frequency may appear lower than it is.

(1) Set the UPLINK and TRACKING SWITCHES to fit the desired satellite. Refer to the chart below.

(2) Turn power to the radio ON.

• Power to the CT-16 should remain OFF.

(3) Set the operating frequencies and modes on both radios.

• It is enough that the frequencies are set only to the upper or lower edge of the satellite frequency range.

(4) Turn power to the CT-16 ON.

(5) Set the frequency of the downlink receiver.

• The uplink transmitter frequency will move automatically as the downlink receiver TUNING CONTROL is turned.

• When the uplink transmitter frequency moves over the band edge the red power indicator flashes to indicate an overedge condition.

(6) Make a loop test on the operating frequency.

• The clarity adjustment should be made on the uplink transmitter. In this case the downlink receiver frequency does not move.

(7) Adjust the frequency of the uplink transmitter to compensate for the Doppler Effect.

☐ SATELLITE FREQUENCY, ADDRESS SWITCH CHART

<table>
<thead>
<tr>
<th>SATELLITE STATION</th>
<th>UPLINK FREQUENCY RANGE</th>
<th>DOWNLINK FREQUENCY RANGE</th>
<th>BEACON FREQUENCY</th>
<th>UPLINK SWITCH</th>
<th>TRACKING SWITCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>FO-12 (JAS-1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ANALOG MODE</td>
<td>146.000 ~ 145.900MHz</td>
<td>435.800 ~ 435.900MHz</td>
<td>435.795MHz</td>
<td>IN</td>
<td>IN</td>
</tr>
<tr>
<td>DIGITAL MODE</td>
<td>145.850MHz (1)</td>
<td>435.910MHz (2)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>145.870MHz (2)</td>
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<td></td>
<td>145.890MHz (3)</td>
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<tr>
<td></td>
<td>145.910MHz (4)</td>
<td></td>
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</tr>
<tr>
<td>AO-10</td>
<td>1269.050 ~ 1269.850MHz</td>
<td>436.950 ~ 436.150MHz</td>
<td>436.020MHz</td>
<td>OUT</td>
<td>IN</td>
</tr>
<tr>
<td>L MODE</td>
<td>145.910 ~ 145.950MHz</td>
<td>29.410 ~ 29.450MHz</td>
<td></td>
<td>OUT</td>
<td>OUT</td>
</tr>
<tr>
<td>B MODE</td>
<td>145.960 ~ 146.000MHz</td>
<td>29.460 ~ 29.500MHz</td>
<td></td>
<td>OUT</td>
<td>OUT</td>
</tr>
<tr>
<td>RS-5</td>
<td>145.910 ~ 145.950MHz</td>
<td>29.410 ~ 29.450MHz</td>
<td></td>
<td>OUT</td>
<td>OUT</td>
</tr>
<tr>
<td>RS-7</td>
<td>145.960 ~ 146.000MHz</td>
<td>29.460 ~ 29.500MHz</td>
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<td>OUT</td>
<td>OUT</td>
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