

CT-16

SATELLITE INTERFACE UNIT

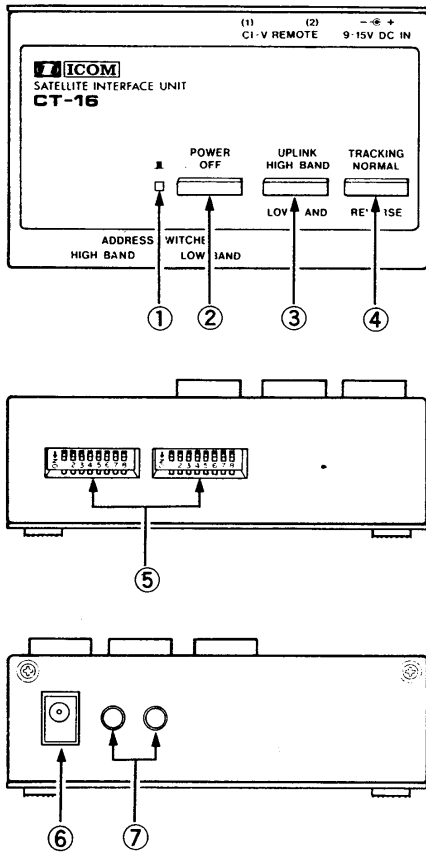
INTRODUCTION

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.

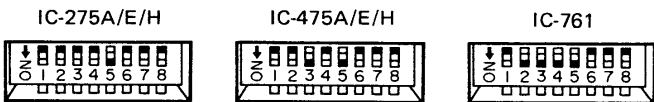
⑥ **9-15V DC IN JACK**

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



■ : 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 Transceive 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.

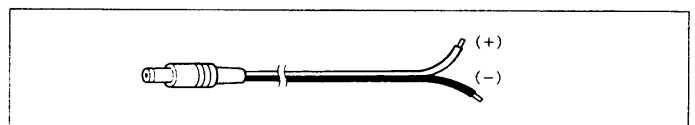
• When using the UX-14, set switch 7 in the OFF position.

• 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.

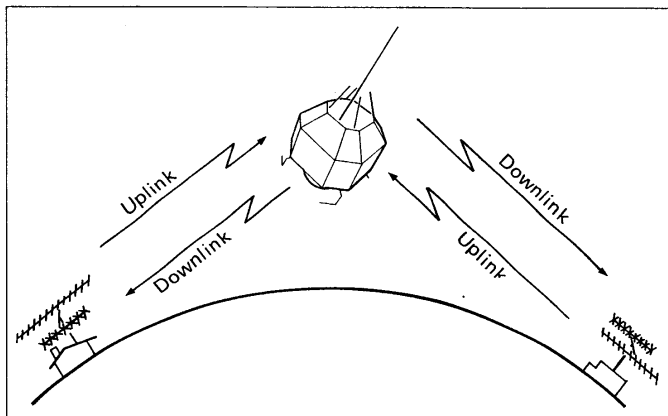
CI-V REMOTE JACKS (1) and (2) are parallel connected inside CT-16, so either radio can be connected to either jack.

(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

SATELLITE				CT-16		
SATELLITE STATION		UPLINK FREQUENCY RANGE	DOWNLINK FREQUENCY RANGE	BEACON FREQUENCY	UPLINK SWITCH	TRACKING SWITCH
FO-12 (JAS-1)	ANALOG MODE	146.000 ~ 145.900MHz	435.800 ~ 435.900MHz	435.795MHz	IN	IN
	DIGITAL MODE	① 145.850MHz ② 145.870MHz ③ 145.890MHz ④ 145.910MHz	435.910MHz	435.910MHz	POWER OFF (CT-16 is not in use)	
AO-10	L MODE	1269.050 ~ 1269.850MHz	436.950 ~ 436.150MHz	436.020MHz	OUT	IN
	B MODE	435.040 ~ 435.155MHz	145.964 ~ 145.849MHz	145.810MHz	OUT	IN
RS-5		145.910 ~ 145.950MHz	29.410 ~ 29.450MHz	29.330MHz	OUT	OUT
RS-7		145.960 ~ 146.000MHz	29.460 ~ 29.500MHz	29.340MHz	OUT	OUT

ICOM INCORPORATED

1-6-19, KAMIKURATSUKURI, HIRANO-KU,
OSAKA 547, JAPAN