



MODEL TC-100

TELECONFERENCING INTERFACE SYSTEM

OPERATION & INSTALLATION MANUAL

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1.0 INTRODUCTION

Thank you for purchasing the Premier Wireless "TC-100" Teleconferencing Interface System. This is a unique video/audio switching and signal routing system that offers some of the following convenient features:

- ! 4 x 1 Video/Audio switch allows user to select between four remote wireless receivers.
- ! Optional Video encryption decoder for wireless video transmissions.
- ! Local Audio interface provides capability to add full duplex Audio Teleconferencing system.
- ! Cordless Phone input allows full duplex wireless audio connectivity via a cordless phone.
- ! Local mic/headphone input for PC based systems.
- ! Amplified Speaker output with front panel volume control.

2.0 DESCRIPTION

The TC-100 is designed to integrate and distribute the signals from wireless video/audio receivers with the audio and video signals from a video conferencing system. Its multi-featured design allows it to function with any standard video conference system from large Group systems to individual PC based systems.

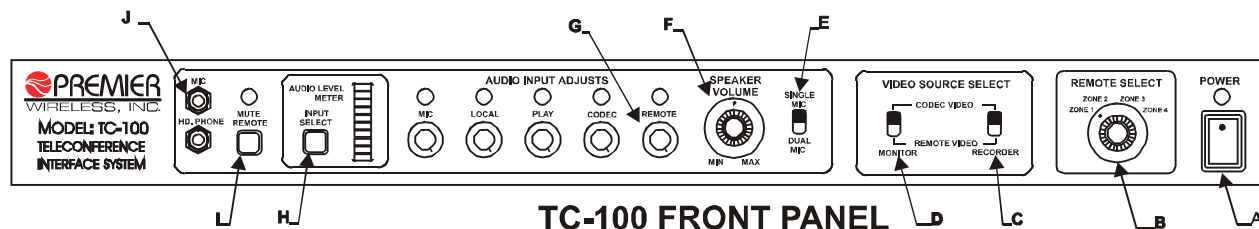
The TC-100 can also be used to increase the functional capabilities of PC based systems by providing up to four additional composite video input sources and allowing the use of a high quality full duplex Audio Teleconferencing system.

2.1 WHAT IS INCLUDED: Enclosed in each package you will find:

- 1 ea: TC-100 system;
- 1 ea: AC/DC power supply with IEC interface;
- 3 ea: A/V cable pairs;
- 4 ea: RCA/BNC adaptors.

2.2 LOCATION OF CONTROLS

Refer to the front panel illustration below for specific location of the following controls:

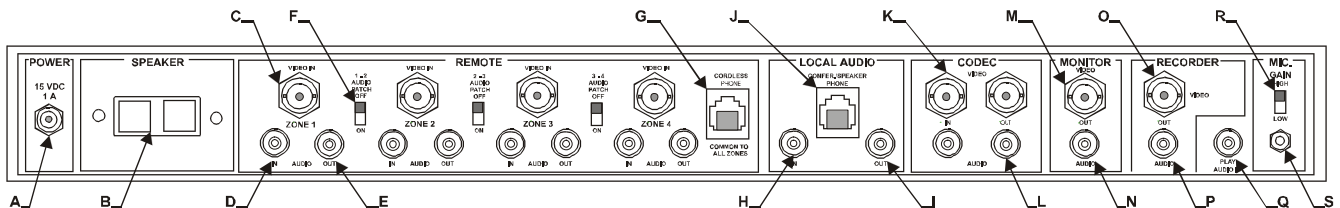


A: ON/OFF Switch: Power switch activates system. There is an LED indication of power on status.

B: REMOTE SELECT: The four position switch selects up to four different remote video/audio sources.

C & D: VIDEO SOURCE SELECT: Two switches route either the wireless remote video or video from the codec, to the monitor and VCR ports of the TC-100. Switch "C" routes one of the sources to the VCR and "D" routes one of the sources to the Monitor.

- E: SINGLE OR DUAL MIC:** Select "Dual" mic position when using both the video conferencing system microphone and a second microphone (or the mic "Tap-Off" box) to provide local audio to the wireless camera operator. Select "Single" mic position when using only one microphone that is routed through the TC-100 (The TC-100 then routes the audio to the codec). The Dual mic option is preferred when using video conferencing systems with audio echo cancellation circuits.
- F: SPEAKER VOLUME:** Controls amplifier output level at speaker port on rear panel.
- G: AUDIO INPUT ADJUSTS:** These five controls adjust the input levels of the five main audio sources; "microphone", "local", "play", "codec" and "remote". The "Input Select" switch (item "H") determines which audio input is being routed through the Audio Level Meter for display. An LED above the control lights up when selected by the "Input Select" switch.
- H: INPUT SELECT:** The push button switch selects which Audio Input level is being adjusted. Pushing the switch five times will cycle through all five inputs.
- I: MUTE REMOTE:** Activating this switch prevents local audio from being routed to the wireless remote position. This allows privacy for conversations in the room with the local codec. An LED will light when the switch is activated.
- J: MIC & HEADPHONE:** These are I/O ports for an audio headset with boom mic.



Refer to the rear panel illustration above for specific location of the following I/O ports and controls.

- A. POWER:** Input port for AC/DC adaptor.
- B. SPEAKER CONNECTION:** Output pushbutton connector for speaker hook-up.
- C. REMOTE VIDEO IN:** Input ports for up to four remote wireless video receivers.
- D. REMOTE AUDIO IN:** Input ports for audio from remote wireless audio base stations.
- E. REMOTE AUDIO OUT:** Output ports for audio out to remote wireless audio base stations.
- F. AUDIO PATCH:** Switch allows one audio base station to cover one or more wireless video receive zones. By properly setting the patch switches the audio zones can be set up independently of the video zones.
- G. CORDLESS PHONE:** Input port allows a cordless phone base unit to replace a wireless audio intercom system.

- H - J. LOCAL AUDIO:** I/O ports allow the use of an audio teleconferencing system to be used as a source of local audio.
- K - L. CODEC:** I/O port for video and audio to and from the local codec.
- M - N. MONITOR:** I/O port for video and audio to the local monitor. Switch on front panel selects far end or wireless video source. Audio is both far end and wireless source.
- O - P. RECORDER:** I/O port for video and audio to a VCR. Switch on front panel selects far end or wireless video source. All audio sources are recorded.
- Q. PLAY AUDIO:** Input port for auxiliary audio source. Audio is distributed to wireless operator, far end and locally.
- R - S. MIC:** Input port for a second local mic. This audio will be sent to the wireless operator only when front panel switch is set to "Dual" mic position. The audio will be sent to both the wireless operator and the codec when the front panel switch is set to "Single" mic position. Under this condition, do not connect a separate mic to the codec. Switch "S" allows selection of low or high gain depending on the type of mic used.

3.0 INSTALLATION

3.1 Location

The TC-100 should be located with the video conference system, ideally between the codec and the monitor.

3.2 Basic Installation

Connect the TC-100 to an AC outlet using the AC/DC power supply provided with the TC-100.

3.2.1 Video

- A. Using a video cable supplied with the TC-100, connect the video out from the codec to the Codec Video In port of the TC-100. You will first have to disconnect the existing video cable going from the codec to the monitor.
- B. Using the original video cable that was connected between the codec and monitor connect the monitor to the "Monitor" port of the TC-100.
- C. Using a video cable supplied with the TC-100, connect the "Codec Out" port of the TC-100 to an auxiliary "Video In" port on the codec. Typical ports to use would be those labeled "VCR" or "Doc Camera" or "Auxiliary" on the codec.
- D. Connect the cable from the remote wireless video receiver to the "Remote" video port 1 on the TC-100. If there is more than one remote wireless receiver then connect their cables to ports 2 - 4 on the TC-100.

3.2.2 Audio

- A. Using an audio cable supplied with the TC-100, connect the audio Line Out from the codec to the Codec Audio In port of the TC-100. You will first have to disconnect the existing audio cable going from the codec to the monitor.
- B. Using the original audio cable that was connected between the codec and monitor connect the monitor to the "Monitor" port of the TC-100.
- C. Using an audio cable supplied with the TC-100, connect the "Audio Out" port of the TC-100 to a Line In port on the codec. Most codecs will have an auxiliary audio Line In port in addition to the microphone input port.
- D. Connect the cables from the remote wireless audio base station to the "Remote" audio port 1 on the TC-100. Make sure that the audio out port on the TC-100 is connected to the auxiliary input port of the audio base station and the audio in port on the TC-100 is connected to the auxiliary output port of the audio base station. If there is more than one remote audio base station then connect their cables to ports 2 - 4 on the TC-100. It is important to use port 1 if there is only one base station, ports 1 & 2 if there are two base stations, etc.

3.3 Options

3.3.1 Cordless Phone

As an option a cordless phone system can replace the standard wireless audio intercom system. The cordless phone is standard if the Liberty 2005 is ordered. The base unit of the cordless phone system is connected to the TC-100 via standard telephone cable terminated with an RJ-11 plug.

3.3.2 VCR

A VCR may be connected to the TC-100 via the video/audio connectors on the rear panel. All audio signals into the TC-100 are automatically routed to the VCR audio port. Remote wireless video **or** far end video (from the codec) is routed via controls on the front panel.

3.3.3 Audio Conference System

Large group style video conference systems have high performance audio capabilities including full duplex audio with echo cancellation. Smaller systems (such as PC based) may not have these capabilities. The audio performance of the smaller systems can be improved by using a high performance **audio conference system** with the TC-100. The audio conference system can be interfaced to the TC-100 on the rear panel via either a standard RJ-11 phone jack or two RCA audio connectors (audio in & out).

3.3.4 Head Phone (with mic)

With some video conference systems (such as PC based) it may be convenient to provide local audio communication via a head phone and boom mic. Two 3.5 mm sockets on the front panel are provided for this purpose.

3.3.5 Speaker

A separate speaker may be connected to the TC-100 via the speaker connectors on the rear panel. The maximum output is 2.0 watts into 4.0 ohms.

3.3.6 Encryption System

If the encryption option is selected then the "decoder" board is installed inside the TC-100. If this option is selected at time of purchase then the decoder board is factory installed. The board can be installed by the end user and instructions accompany the encryption system when it is ordered.

3.3.7 Microphone

In order that local audio be relayed to the remote wireless location a local audio input must be supplied to the TC-100. This can be from a microphone "tap-off" box supplied from Premier Wireless (see accessories) and inserted between the local video conference system microphone and the codec; or from a separate table microphone (also available from Premier Wireless). If a separate microphone is used then the audio from this mic is input to the TC-100 via the rear panel mic input port (3.5 mm).

4.0 OPERATION

4.1 Introduction

Once the TC-100 is properly set-up there should be no need for further adjustments or control unless you are selecting a different remote wireless "zone". The only adjustments to be made are on the input levels of the audio sources connected to the TC-100. TC-100 is turned on via the front panel power switch. An LED will indicate a power on status.

4.2 Input Audio Level Adjustment

For each audio input to the TC-100 perform the following procedure:

- A. Select the appropriate input (microphone, local, play, codec or remote) by pushing the "Input Select" button until the LED above the correct control lights up.
- B. With the input audio source at normal operation adjust the control with a small flat blade screwdriver until the LED meter shows all green lights with momentary flashes of red light. In the case of a local microphone or the remote wireless source someone will have to be talking in a normal tone and level for proper adjustment.

4.3 Speaker Level

If a speaker is connected to the TC-100 then adjust the output to a comfortable level using the volume control on the front panel.

4.4 Remote Zone Selection

If there is more than one remote wireless video receiver then select the appropriate zone using the four position switch located on the front panel.

4.5 Remote Audio Zone Set-Up

In some cases one remote wireless audio base unit may cover more than one wireless video zone. In that case the "patch" switches on the rear panel must be correctly set. If one audio base unit covers both zone 1 and 2 then the switch between the input BNC connectors for zone 1 and 2 must be "on". If one audio base unit covers zones 1 - 3 then both the 1/2 switch and the 2/3 switch must be "on". If one audio base unit covers zones 1 & 2 and a second audio base unit covers zones 3 & 4 then the 1/2 and the 3/4 switch are "on" and the 2/3 switch is "off".

4.6 Audio Mute of Remote Zone

In some circumstances it may be necessary to carry out a local conversation that the remote wireless location is not party to. In that case the "Mute" push button switch on the front panel should be depressed.

4.7 Video Routing to Monitor or VCR

Slide switches on the front panel select whether the remote or codec video is sent to the monitor. In normal operation the left switch is "up" routing the codec video to the monitor. At any time moving the switch down will route remote video to the monitor. The right switch sends codec (far end) or remote (wireless) video to the VCR.

5.0 ACCESSORIES

The following accessory items are available from Premier Wireless.

	<u>ITEM</u>	<u>PART #</u>	<u>DESCRIPTION</u>
1.	Table Microphone	5000018000	Boundary microphone with 10' cable.
2.	Headphone & Mic.	5000019000	Head set with boom mic and 4' cable.
3.	Encryption Decoder	Viewlock I (option A)	Decoder board for encrypted video over wireless link.
4.	Mic Tap-Off	MT-001	Tap-Off box to route audio from existing local mic to TC-100.

6.0 SPECIFICATIONS & BLOCK DIAGRAM

Electrical

Video	..... Composite (NTSC, PAL, SECAM)
Audio	
Line	..... -12 to +2 dBm
Mic	..... -70 dBv / -50 dBv
Speaker	..... > 2.0 watts, 4 ohms

Controls

! Power		! Speaker Volume
! Wireless Video/Audio Zone Select		! Remote Audio Mute
! Audio Input Level		

Power	..... 12.0 VDC, 1.0 amps max
Dimensions	..... 17.0" x 8.0" x 1.75" (432 x 203 x 44.5 mm)
Weight	..... 5 lbs (2.3 kg)

System Includes

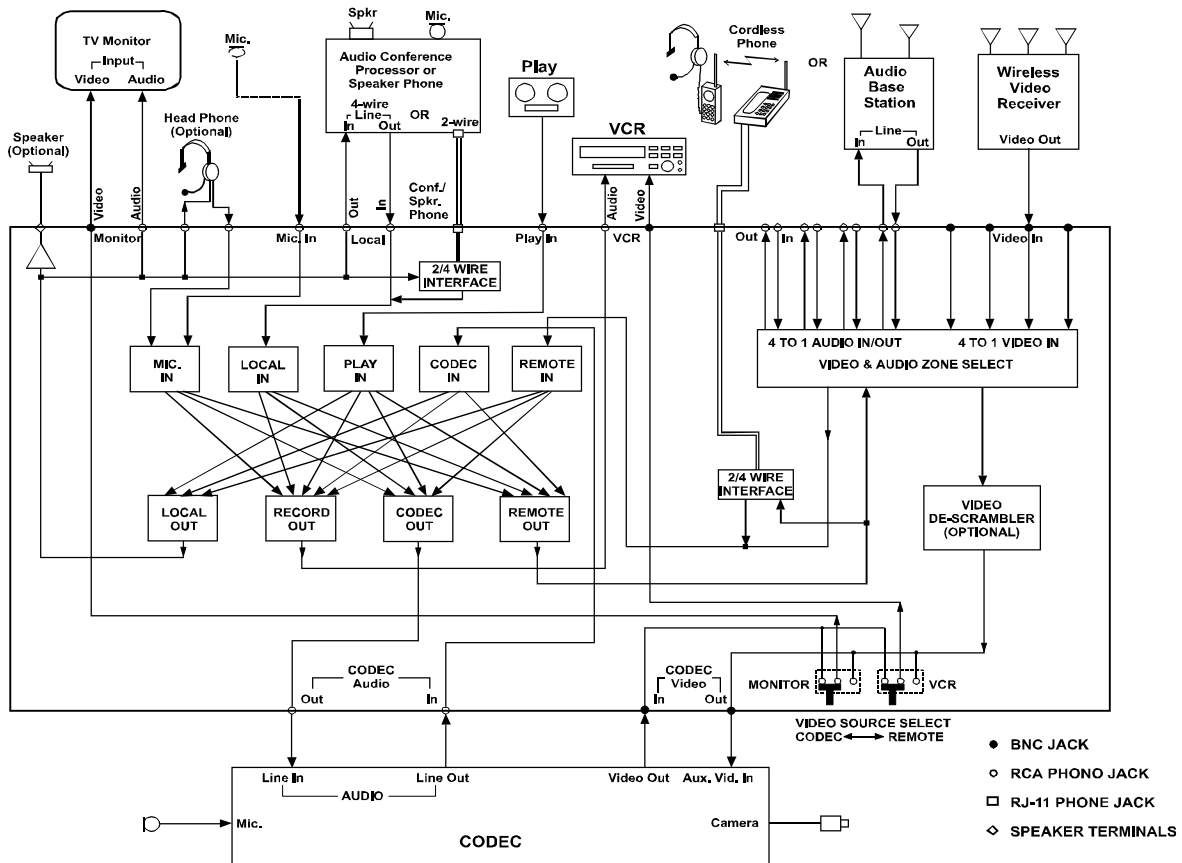
TC-100;
 AC/DC power supply with IEC interface;
 Cables; 3 pair A/V cable with 4 RCA/BNC adaptor;

Interface I/O

Video	
Codec (I/O)	..... BNC
VCR (Out)	..... BNC
Monitor (Out)	..... BNC
Wireless Video (In)	..... BNC (4 ports)
Audio	
Codec (I/O)	..... RCA
VCR (Out)	..... RCA
Monitor (Out)	..... RCA
Audio Teleconference (Local I/O)	
2/4 Wire Interface	..... RJ-11
4 Wire Line Level	..... RCA
Microphone (I)	..... 3.5 mm
Microphone (II)	..... 3.5 mm
Headphone	..... 3.5 mm
Play (In)	..... RCA
Wireless Audio (I/O)	..... RCA (4 I/O ports)
Cordless Phone (I/O)	..... RJ-11(1 port)

Options:

Video Encryption De-coder:	..... Viewlock I (option A)
Table Mic	..... 5000018000
Mic Tap-Off	..... MT-001 (consult factory for specific codec option)
Headphone with Mic	..... 5000019000



TC-100 BLOCK DIAGRAM

7.0 WARRANTY & RETURNS

WARRANTY

Premier Wireless will repair or replace, without charge, any product proved defective in material or workmanship in normal usage for a period of one year after the date of shipment. Premier Wireless will warranty all replacement parts and repairs for 90 days from the date of shipment. All goods for warranty or out of warranty work shall be sent freight prepaid to our California facility. Repairs made necessary by reason of misuse, alteration, normal wear or accident are not covered under this warranty. In no event is Premier Wireless liable for indirect, incidental or consequential damages incurred by the customer for any reason.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND OF ANY OTHER OBLIGATION ON THE PART OF PREMIER WIRELESS.

This warranty gives you specific legal rights. You may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, contact Premier Wireless for a Return Material Authorization number (RMA), and provide the following information.

- A: Model and Serial Number
- B: Date of Shipment, P.O. number, Premier Sales Order number, or Premier invoice number.
- C: Details of the defect or problem

If there is a dispute regarding the warranty of a product which does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Ship freight prepaid to:

Premier Wireless, Inc.
2284 N. Glassell Street, Unit D
Orange, CA 92865
Attn: RMA _____
Ph: (714) 283-1251

Returned goods should be clearly identified with the assigned RMA number. Method of return shipment shall be via UPS Ground unless otherwise requested and paid for by customer.

OUT OF WARRANTY & CREDIT RETURNS

The same procedure specified above for warranty returns should be followed for out of warranty repairs and credit returns. Below is an outline of our policy.

1. Any products can be returned for full credit towards future purchases as long as it is in new condition and returned within thirty (30) days of the ship date as provided on the original packing slip from Premier Wireless. A twenty percent (20%) restocking fee will apply for any new product returned after 30 days but less than 90 days. No return will be accepted after 90 days.

2. Any returned product that requires repair and/or refurbishment so that it can be resold will bear additional charges which will be deducted from the credit given.

3. At no time will Premier Wireless accept any product that can not be repaired and/or refurbished for purpose

of resale.

4. All freight charges will be the responsibility of the customer.

PACKAGING OF RETURNED GOODS

When returning products to Premier Wireless please ensure adequate protective packing materials are used to prevent any damage during shipment. Use the original packing boxes if possible. For bulky products such as the NEMA enclosures, a double box packing method is necessary. Do not ship NEMA enclosures using the inner box alone as damage to the enclosure can easily occur during shipment.

CUSTOMER SATISFACTION

Premier Wireless commitment to our customers requires 100% customer satisfaction. Our return policy guarantees 2-day turnaround on all Premier Wireless manufactured products returned for warranty or non-warranty repair.