Interfacing JVC's CCU (RM-HP250AU) with common Intercom systems

The RM-HP250AU can be connected to either a two wire balanced or a two wire unbalanced intercom system. The table below lists common intercom systems, audio type(balanced or unbalanced), system impedance and manufacturer.
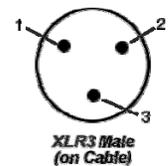
Intercom System	Audio type	Termination Spec	Manufacturer
RTS™	Unbalanced	200Ω	Telex Communications, Inc.
Clear-Com	Unbalanced	200Ω	Clear-Com Intercom Systems
Audiocom®	Balanced	300Ω	Telex Communications, Inc.

The RM-HP250AU has three terminals that are used to interface with balanced and unbalanced two wire audio intercom systems. These terminals are labeled G (ground) C (cold) H (hot).

The table below shows the signals carried on the 3 pin XLR microphone cables used by the most common intercom system providers.

Pin	Clear-Com	RTS™ TW	Audiocom®
1	Ground	Ground	Ground
2	30V Pwr	CH1 unbalanced Audio 30V Pwr	Balanced Audio +
3	Unbalanced audio	CH2 unbalanced Audio	Balance Audio -

XLR3 Male (on Cable)

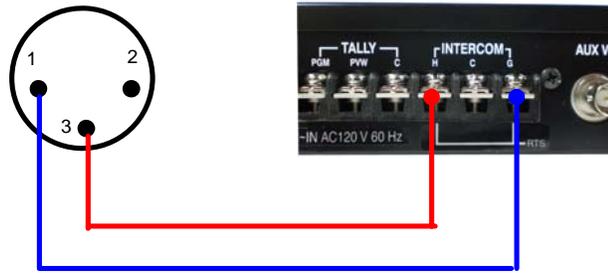**Connecting the RM-HP250AU to an unbalanced Audio Intercom system**
Step 1
Make sure that S301 on the RM-HP250AU main board is set to the unbalanced audio position (RTS) which is the factory default position. See fig 2 on last page.
Step 2
When connecting to a 2W RTS™ system, wire the three pin microphone XLRs that are used to connect the RTS™ intercom system to the RM-HP250AU as shown below. As indicated below connect the RTS™ XLR's pin2 to the RM-HP250AU's H terminal if Audio channel 1 is being used. If audio channel 2 is used, then connect pin3 to the RM-HP250AU's H terminal.

When connecting to a 2 wire Clear-Com audio system, wire the Clear-Com three pin microphone XLRs to the RM-HP250AU as shown below.
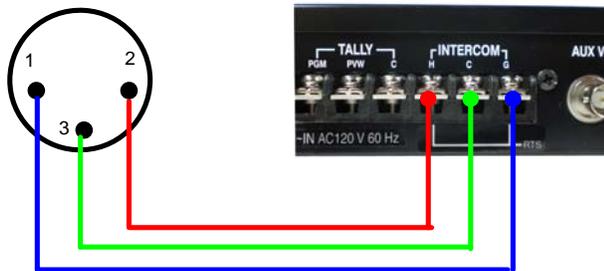

Connecting the RM-HP250AU to a 2W balanced audio intercom system
Step 1
 Set S301 on the RM-HP250AU to the 2W position (balanced audio position). See fig 2 on last page. Also perform the side tone adjusted described on page 1-9 of the RM-HP250AU service manual NO HC025<REV.001>.
Step 2
When connecting to a 2W balanced system such as Audiocom® connect three pin Audiocom® XLRs to the RM-HP250AU as indicated below.

To increase the intercom volume at the KA-HD250U's head set

If the intercom Audio level at the Camera operator's head set is too low then R326 (12K) on the RM-HP250AU's main board should be replaced with an 8.2K resistor.
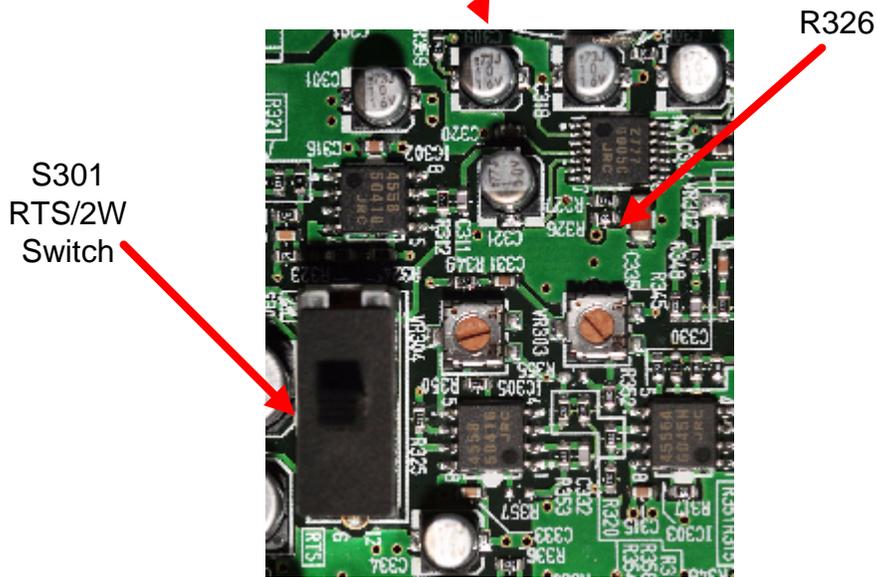Step 1
Remove the RM-HP250U's cover. Remove the 5 screws pointed to by arrows below and lift the cover off.

Step 2
Remove the 12K resistor and solder an 8.2K resistor in its place. See location of R326 in Fig 1and expanded view of location in Fig 2.

Fig 1 RM-HP250AU with cover removed

R326

S301
RTS/2W
Switch

Fig 2

Step 3
Reassemble the RM-HP250AU and test the audio level.