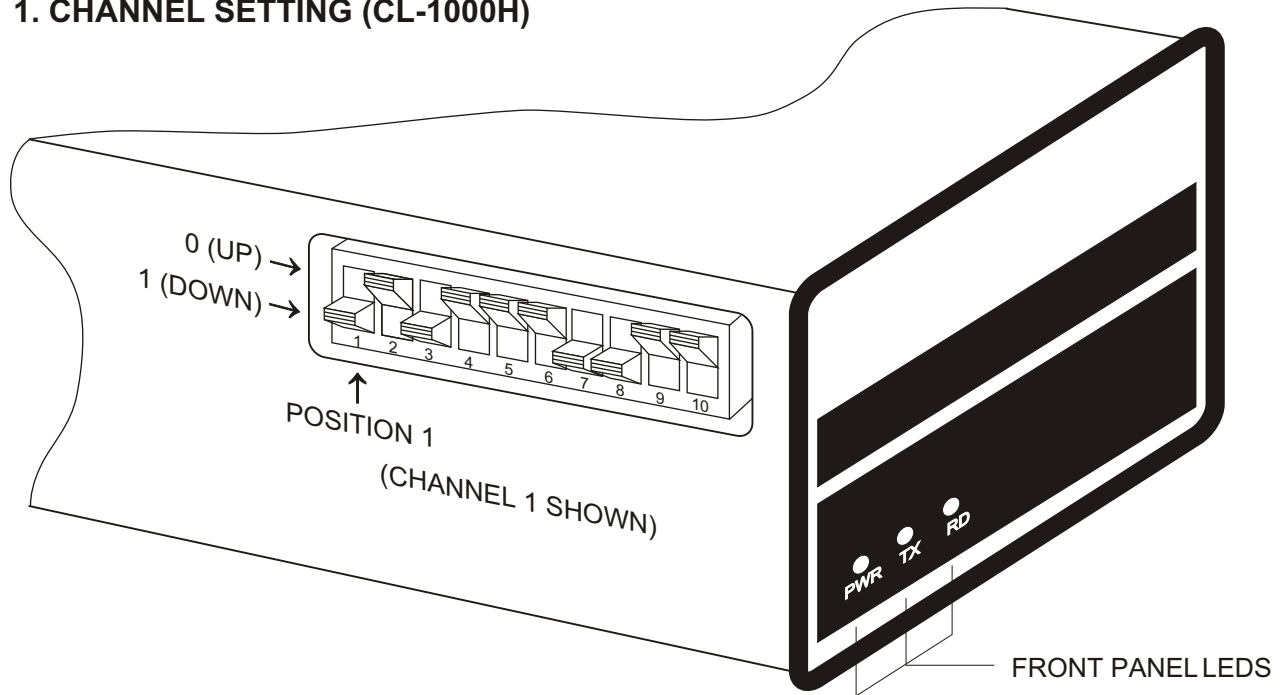


CL-1000H/1200 CONTROL LINKS

1. CHANNEL SETTING (CL-1000H)

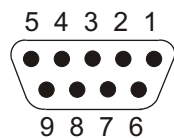


CHANNEL	FREQUENCY (MHz)	*CL-1000H DIP SWITCH SETTINGS
SWITCH POSITION →		1234567890
1	905.055	1010001100
2	906.055	1010100010
3	907.055	1010011010
4	908.055	1010110110
5	909.055	1010000001
6	910.055	1010101001
7	911.055	1010010101
8	912.055	1010111101
9	913.055	1010001011
10	914.055	1010100111

CHANNEL	FREQUENCY (MHz)	*CL-1000H DIP SWITCH SETTINGS
11	915.055	1010011111
12	916.055	1011110000
13	917.055	1011000100
14	918.055	1011101100
15	919.055	1011010010
16	920.055	1011111010
17	921.055	1011001110
18	922.055	1011100001
19	923.055	1011011001
20	924.055	1011110101
21	925.055	1011000011

* There are no dip switches on the CL-1200 full duplex control link. Changing channel requires the use of a terminal program such as the HyperTerminal program inside the Windows operating system. Please see the command instruction sheets for all the commands used to communicate with the control link.

2. RS-232 CONNECTOR

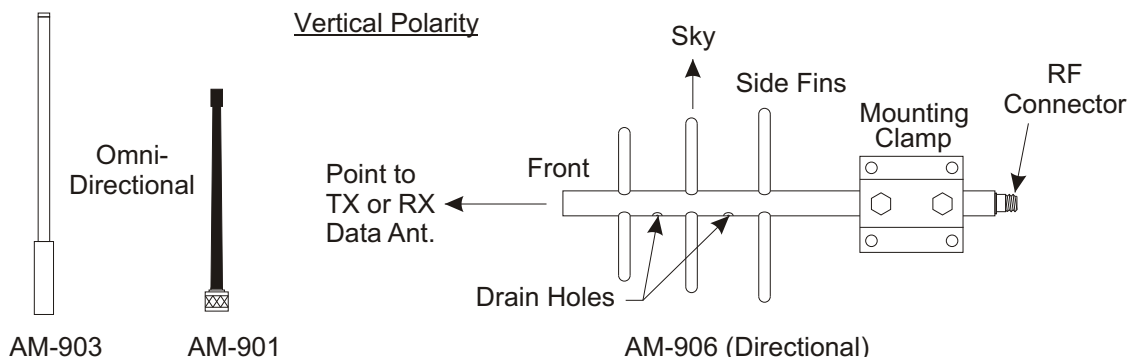


DB-9
CONNECTOR
(FEMALE)

PIN	SIGNAL
1	NOT USED
2	RECEIVE DATA (OUTPUT)
3	TRANSMIT DATA (INPUT)
4	NOT USED
5	GROUND
6	PORT POWER TO CONVERTER
7	NOT USED
8	CLEAR TO SEND (OUTPUT)
9	NOT USED

3. ANTENNA MOUNTING (DATA)

The polarities of the antennas on both sides have to be identical for good reception, either vertical or horizontal polarity can be used. Omni-directional antennas are usually mounted vertically giving vertical polarity. They can be used with other directional antennas when the directional antennas are oriented to the same polarity. Here are some examples of antennas with vertical polarity:



Notes:

- (1) When mounting the AM-906 in the vertical orientation (vertical polarity), point the side fins to the sky and drain holes to ground. Aim the front end towards the other side of the transmission.
- (2) When mounting any omni-directional antenna on a pole or against a wall, unless it is mounted on the very top end of these structures with 360 degrees of clearance, the pole or wall will act as a reflecting surface and modify the forward gain pattern. The forward gain can change from a maximum to a null depending on the distance of the antenna from the reflecting surface. To reestablish maximum gain, the distance has to be adjusted by a few inches forward or backward (up to 6.5" or multiples of 6.5", half of a wavelength at 900MHz). To avoid this back plane problem, use directional antennas such as the AM-906.

4. CONTROL LINK SETUP

Bench testing of the complete set-up is highly recommended to verify correct connection before the system is installed in the field. Place the TX and RX enclosures about a few feet apart. Hook up the control links to the keyboard controller and the pan/tilt camera receiver according to their manufacturers' instructions. Pay attention to the polarity of the data signal if RS-485/RS-422 format is used. Connect the data antennas to the enclosures. Verify that the two control links are set on the same channel. If the units were ordered with the NEMA enclosures, they should be already set on the right channel, the default setting is CHANNEL 11. Complete the check-up by observing the camera following the keyboard controls. When the system is installed in the field, verify the antenna orientation on both ends to be the same to give the same polarity.

5. TROUBLE SHOOTING

If after hooking up the wiring and antennas, there is no response from the pan/tilt camera, check the front panel lights on the control links and they give you a quick indication where the problem is coming from.

- (1) No "TX" Light on TX Control Link --- No signal going to the transmitter
 - (a) Check the keyboard controller.
 - (b) Check data cable connections.
 - (c) Check CC-001 converter if used.
- (2) "TX" Light "ON"; no "RD" Light on RX Control Link --- Incorrect or no RF signal to the receiver
 - (a) Check the channel setting on both the transmitter and the receiver.
 - (b) Check antenna connections, polarity and signal path.
- (3) "TX" and "RD" Lights "ON" --- Transmitter and receiver are working properly
 - (a) Reverse +/- polarity on only one side of the data signal connection if RS-485/422 interface is used.
 - (b) Check CC-001 converter if used.
 - (c) Check data cable connections.
 - (d) Check pan/tilt receiver address. If in doubt, try to connect the pan/tilt camera to the keyboard controller directly to verify operation.
- (4) TX Light "ON"; RD Light Twinkling --- Weak RF signal or interfering signal or low supply voltage
 - (a) Use higher gain antenna on one side or even both sides.
 - (b) Change the polarity of the antennas if the problem is from interference.
 - (c) Check power supply voltage for a minimum of 12 VDC.