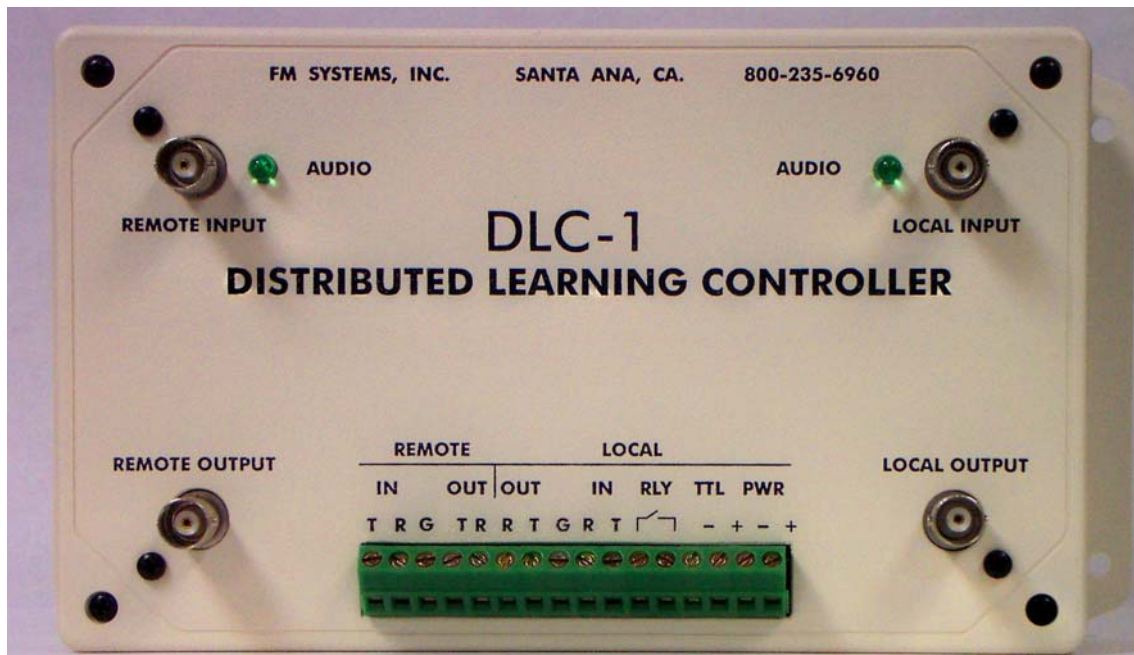


DLC-1



DISTRIBUTED LEARNING CONTROLLER

INSTALLATION MANUAL

IB 6339-01

DESCRIPTION

The DLC-1 Distributed Learning Controller is used to control the direction of transmission for Audio and Video signals in Distance Learning and Distributed Learning Networks. The unit receives base-band audio and video from both local and remote sites, then switches the audio and video from the site with active audio to both remote and local sites. The site that has active audio on it will be distributed to both remote and local sites. This video follows audio switching is done automatically.

FEATURES

A local TTL input is available to manually switch the unit to remote position (instructor site) "receive only" if an audio conflict cannot be resolved or if the local site wants to lock out, limit or control interruptions from a student at a local site. This feature will prevent a local problem from disrupting a Distributed Learning session.

The unit has an auxiliary relay output that is field programmable for either normally open or normally closed for external operation of any device. This relay mirrors the operation of the audio and video switch.

Both audio channels have an L.E.D. to indicate active audio and also the position of the audio and video switch. The unit has convenient screw terminal connections for the Balanced or Unbalanced audio inputs and outputs. Internal jumpers can be selected for all audio line levels.

The unit has BNC (female) connectors for the video inputs and outputs. All video inputs are internally terminated with 75 Ohms.

Power is supplied by a 24 VDC power cube (included). The white colored enclosure is made of a rugged ABS material with built-in mounting flanges for easy mounting and a flame rating of UL94V-0.

UN-PACKING UNIT

Remove the equipment from the packing materials. The following materials should be supplied with each order.

QTY 1 DLC-1 (White Box).
QTY 1 Power Cube +24 VDC.
QTY 1 Instruction Manual IB 6339-01 (This Manual).
QTY 1 Warranty Card.

SET-UP AND INSTALLATION

Locate a convenient place to mount the unit using the built-in mounting Bracket. The location should be protected from harsh environments. The location should be as close to the Local audio and video as possible to reduce wiring distances.

VIDEO CONNECTIONS

Next attach the Local Video signal to the input BNC connector labeled (LOCAL INPUT). Then attach the Remote Video signal to the BNC connector labeled (REMOTE INPUT). The BNC connector labeled (LOCAL OUTPUT) is connected to the Local Class Room video feed. The connector labeled (REMOTE OUTPUT) is connected to the Remote Class Room video feed. The video that is automatically selected will appear at these connectors.

SCREW TERMINAL CONNECTIONS

The 16 position screw terminal connector is marked from right to left, for audio inputs and outputs as well as other connections. The following is a table of the connections used to switch Balanced audio. This audio switch is accomplished by internal relay switching.

1. PWR +
2. PWR -
3. TTL +
4. TTL -
5. RLY
6. RLY
7. LOCAL INPUT TIP
8. LOCAL INPUT RING
9. GROUND
10. LOCAL OUTPUT TIP
11. LOCAL OUTPUT RING
12. REMOTE OUTPUT RING
13. REMOTE OUTPUT TIP
14. GROUND
15. REMOTE INPUT RING
16. REMOTE INPUT TIP

CONNECTOR BLOCK DIAGRAM

AUDIO CONNECTIONS (UN-BALANCED)

To connect an Un-Balanced audio signal to the unit simply attach the + or center conductor to the Tip or T screw terminal and the shield or outer conductor to the Ring or R screw terminal. Repeat this for all Un-balanced audio connections.

AUDIO CONNECTIONS (BALANCED)

To connect Balanced Audio to the DLC-1. Connect the Local Audio Tip and Ring connections to the screw terminal marked (LOCAL IN T and R). The "T" is the tip or + connection and the "R" is the ring or - connection. This "T" and "R" designation is the same for all audio connections on the unit. Next connect the Remote Audio Tip and Ring connections to the screw terminal marked (REMOTE IN T and R). The REMOTE and LOCAL audio outputs are the same signal distributed to both outputs. The outputs are both active so that loading on one output will not affect the level of the other output. Connect the Local Audio Tip and Ring connections to the screw terminal marked (LOCAL IN T and R). That completes the connections for a balanced audio signal. For un-balanced audio see the next section. When audio wiring is complete attach the +24 VDC power cube to the screw terminal marked (PWR + -). The power input is protected against polarity reversal.

AUDIO LEVEL SELECTOR

The unit can be used with -10 dBm, 0 dBm, and +10 dBm line level audio signals. The unit is set-up and shipped with the line level selector in the 0 dBm position. If other levels are desired, simply move the input selectors to one of the three positions. **ALL THREE SELECTORS MUST BE POSITIONED ON THE SAME LEVEL SETTING** to ensure proper operation. If different levels are desired contact the factory for more information.

AUDIO LED OPERATION

Each input has a green LED to indicated the position of the video / audio switch and the presence of audio on each input. If audio is present on the input, the LED will be flashing quickly. If that input is selected for output, the LED will be ON solid.

LOCAL TTL CONTROL CONNECTION

The local TTL control can be used by connecting an external switch to the screw terminal marked (TTL + -). The TTL connection is used to control the Audio and Video switch. When the external switch is closed the unit switches to the REMOTE site audio and video and stays there until the TTL switch is opened.

AUXILIARY RELAY OUTPUT

The unit has an auxiliary relay output marked (RLY) on the screw terminal to activate other equipment, such as alarms, indicators, or other switching equipment. The contacts are selectable for Normally Open or Normally Closed by moving a jumper jack on the PC Card.

OPERATION

The instructors audio and video will appear at both local and remote sites when the instructors audio is active. When the students audio is active their audio and video will appear at both local and remote sites. If both the instructor and student are trying to talk at the same time (both audio sources active in conflict), then the audio video switch will remain at its current position until the selected audio source goes silent. This enhances normal conversational switching. Both classroom and instructor will be able to see and hear the person speaking automatically.

MAINTENANCE

There are no periodic adjustments or calibration required with the DLC-1.

SPECIFICATIONS

VIDEO

SPECIFICATION

Standard	NTSC, PAL or SECAM
Level (Composite Video)	1.0 Vp-p, 140 I.R.E.
Input Impedance	75 Ohm
Frequency Response	> 0.2 dB from DC to 20MHz
Cross-Talk (local/remote)	≤ 75 dB
Signal to Noise Ratio	≤ 75 dB

AUDIO

Level	-10dBm to +10dBm
Frequency Response	30Hz - 20KHz
Cross-Talk (local/remote)	< 80 dB
Input Impedance	Hi-z Bridging
Signal to Noise Ratio	≤ 80 dB

AUDIO CONTROL

Audio Threshold	-26 dBu
Switching (Attack Time)	0.1 sec
Lockout (Delay Time)	1.0 sec
TTL Control (Attack Time)	0.02 sec
Audio Indicators	Green L.E.D. Flashers

MECHANICAL

Power Requirement	24 VDC Power Cube (included)
Connectors (Video)	BNC (Female)
Connectors (Audio)	Screw Terminal
Enclosure	9" X 4.5" X 3" ABS White