

User's Guide

LDK 4800 HD/HS Triax Repeater

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About This Manual

Purpose of this manual

The purpose of this manual is to present a global description of how to set up and use the LDK 4800 HD/HS Triax Repeater. Consult the user's guide of your camera and Base Station as required during and after the installation process. This manual ensures that you will be able to install your unit to meet the requirements of your environment. The manual provides some first line service information so that suitably qualified service personnel can detect and repair faults, normally by module replacement.

Intended audience

The manual is intended as a guide to those with a working knowledge of camera systems and installation techniques. The first line detection and repair of faults requires a general knowledge of test and measurement techniques.

Service policy

The LDK 4800 HD/HS Triax Repeater is a sophisticated piece of equipment containing state-of-the-art electronic components which are designed to provide long-life operation without the need for maintenance. With this in mind, the service policy of Thomson Broadcast & Media Solutions endeavours to ensure that help is quickly on hand in the unlikely event of anything going wrong. The guiding principles of the Thomson Broadcast & Media Solutions first line maintenance philosophy are speed and cost effectiveness. First line maintenance is dedicated to keeping your unit operational, despite a fault, by replacement boards and the replacement of minor mechanical parts by the user.

Because of the complexity of some of the components, second line service can only be carried out at the specially equipped service centres and information concerning second line maintenance is not supplied in this manual.

Packing/Unpacking

Inspect the shipping container for evidence of damage immediately after receipt. If the shipping container or cushioning material is damaged, it should be kept until the contents of the shipment have been checked for completeness and the unit has been checked mechanically and electrically.

The shipping container should be placed upright and opened from the top. Remove the cushioning material and lift out the contents.

The contents of the shipment should be checked against the

packing list. If the contents are incomplete, if there is mechanical damage or defect, or if the unit does not perform correctly when unpacked, notify your Thomson Multimedia Broadcast & Media Solutions sales or service centre within eight days. If the shipping container shows signs of damage or stress, notify the carrier as well.

If the unit is being returned to Thomson Broadcast & Media Solutions for servicing, try to use the containers and materials of the original packaging. Attach a tag indicating the type of service required, return address, model number, full serial number and the return number which will be supplied by your Thomson & Media Broadcast Solutions service centre.

If the original packing can no longer be used, the following general instructions should be used for repacking with commercially available materials:

- a. Wrap unit in heavy paper or plastic.
- b. Use strong shipping container.
- c. Use a layer of shock-absorbing material around all sides of the unit to provide firm cushioning and prevent movement inside container.
- d. Seal shipping container securely.
- e. Mark shipping container FRAGILE to ensure careful handling.

Storage

The unit may be stored (non-operating condition) in environments within the following limits:

Temperature: -25 to +70 degrees C

Humidity: Up to 90%

Altitude: 50,000 feet

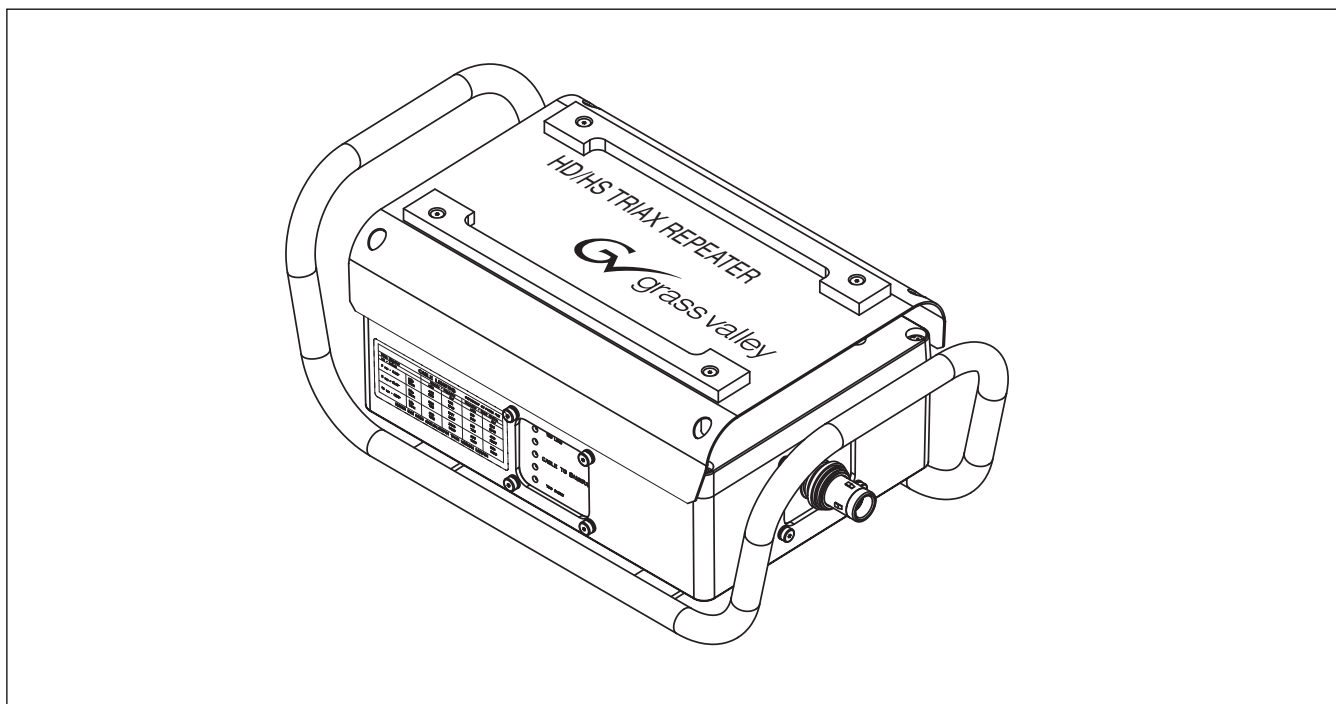
When stored, the unit should be protected from temperature extremes which may cause condensation, and should also be protected from high levels of dust. Do not stack more than two units on top of each other.

Operational environment

CAUTION

- ▲ Without additional protection the LDK 4800 HD/HS Triax Repeater is protected according to safety specification EN60529 up to level IPX4 (splashing water).

HD/HS Triax Repeater



The LDK 4800 HD/HS Triax Repeater is designed to extend the standard Triax cable length between your Thomson HD/HS Triax camera and the Base Station. The total cable length can now be as high as 2,000m (6,600 ft) for standard 14mm Triax cable whereas the maximum length without the LDK 4800 HD/HS Triax Repeater is only 1,000 m (3,300 ft). The unit is placed between the camera and the Base Station where it amplifies and regenerates the video signal. There is no need for an external power supply. The unit is mounted in a tough, weatherproof metal box.

HD/HS Triax transmission systems that include the repeater cover longer distances and so can be used for a greater variety of outside broadcasting events, for example, golf championships, ski sports, motor races or horse races. For HD/HS outside broadcasting, the repeater is installed in the field between the OB-van and the camera.

The LDK 4800 HD/HS Triax Repeater can be used with all Grass Valley HD/HS Triax based camera systems like LDK 4000, LDK 5000 and LDK 6000 but also with high speed cameras like LDK 23 and LDK 6200.

Specifications

Casing:

Heavy duty metal case for outside use.

Dimensions

480 mm x 250 mm x 193.5 mm (LxWxH)

Weight

7.7 kg

Ambient temperature

-20° C to + 45° C (-4 F to +113 F)

Noise figure

< 0.5 dB for Y-signal

Frequency response

No visible degradation

Power consumption

6 W max. (supplied by Base Station)

Amplification

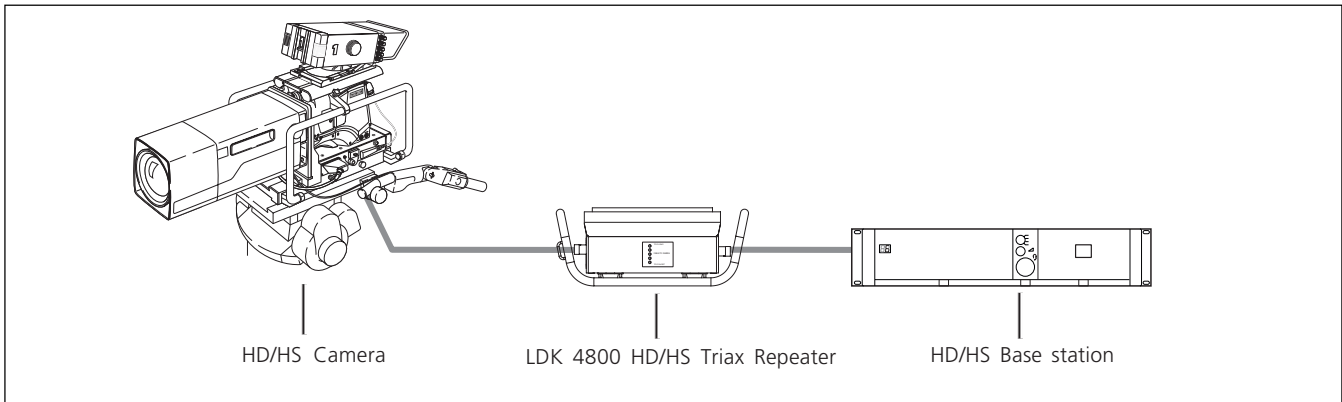
Y-signal (56 MHz): 30 dB approx.

R-Y/B-Y-signal (112 MHz): 42 dB approx.

Typical configurations

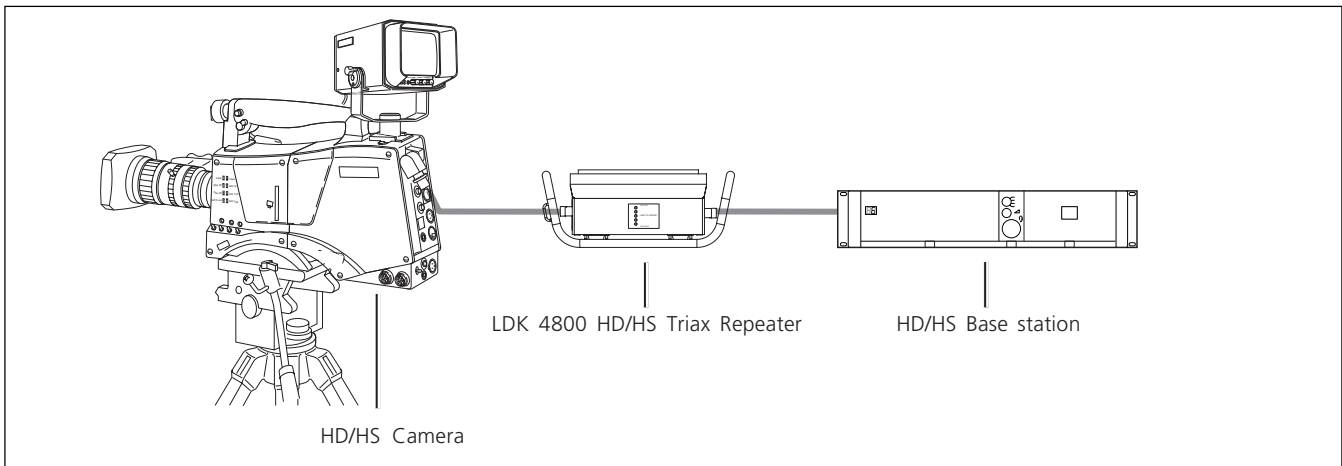
Studio configuration

A super expander with a box type lens and a HDTV Triax camera with a 7-inch viewfinder connected via the HDTV Triax Repeater to a HDTV Base Station.



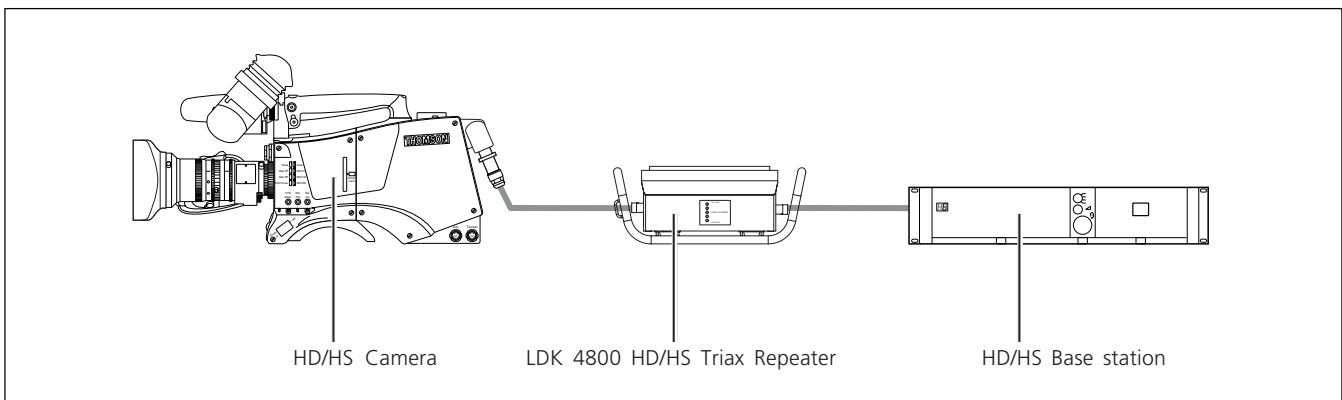
EFP configuration

A HDTV Triax camera with a 5-inch viewfinder and barrel lens or with a 7-inch viewfinder and support connected via the HDTV Triax Repeater to a HDTV Base Station.



Portable configuration

A HDTV Triax camera with a 2-inch viewfinder and a barrel lens connected via the HDTV Triax Repeater to a HDTV Base Station.



Installation

IMPORTANT

▲ To set up the LDK 4800 for optimal use, it is very important that you observe the maximum and minimum cable lengths given in the tables below. Failure to do so can result in serious degradation of the signal.

Camera to repeater

Connect the Triax cable from the camera to the LDK 4800 connector marked "CONNECT TO CAM". Ensure that your cable length and diameter fall within the minimum and maximum values given in the following table:

Cable lengths from camera to repeater

Cable diameter	Min. length	Max. length
8mm / 0.32"	400 m 1300 ft.	500 m *) 1650 ft. *)
11mm / 0.43"	560 m 1800 ft.	700 m 2300 ft.
14mm / 0.55"	800 m 2600 ft.	1000 m 3300 ft.

*) The maximum cable length for 8mm Triax can be adversely influenced by the power consumption of the camera.

Repeater to HS base station

Connect a Triax cable from the LDK 4800 connector marked "Base Station Side" to a HS base station. Ensure that your cable length and diameter fall within the minimum and maximum values given in the following table:

Cable lengths from repeater to HS base station

Cable diameter	Min. length	Max. length
8 mm / 0.32"	100 m 300 ft.	400 m *) 1300 ft. *)
11 mm / 0.43"	140 m 450 ft.	560 m 1800 ft.
14 mm / 0.55"	200 m 650 ft.	800 m 2600 ft.

*) The maximum cable length for 8mm Triax can be adversely influenced by the power consumption of the camera.

Repeater to HD base station

Connect a Triax cable from the LDK 4800 connector marked "Base Station Side" to a HD base station. Ensure that your cable length and diameter fall within the minimum and maximum values given in the following table:

Cable lengths from repeater to HD base station

Cable diameter	Min. length	Max. length
8 mm / 0.32"	100 m 300 ft.	500 m *) 1650 ft. *)
11 mm / 0.43"	140 m 450 ft.	700 m 2300 ft.
14 mm / 0.55"	200 m 650 ft.	1000 m 3300 ft.

*) The maximum cable length for 8mm Triax can be adversely influenced by the power consumption of the camera.

Note

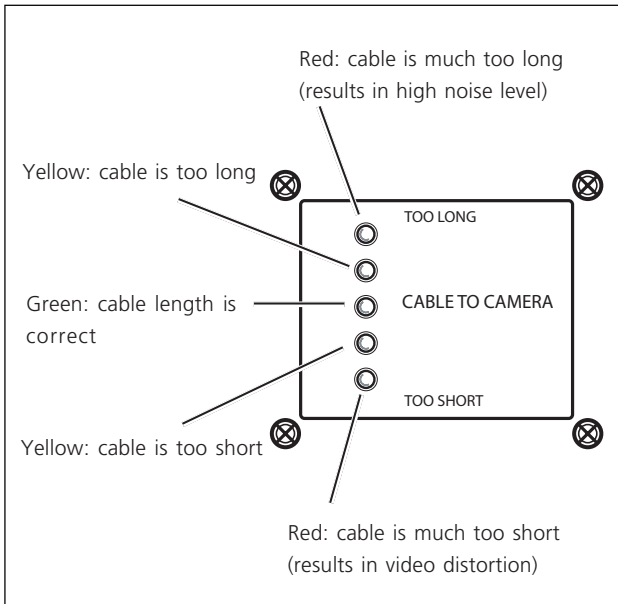
When using an extended Triax connection, the teleprompter signal is not available at the camera head.

Note

To avoid any damage to the equipment, do NOT stack more than two unit on top of each other.

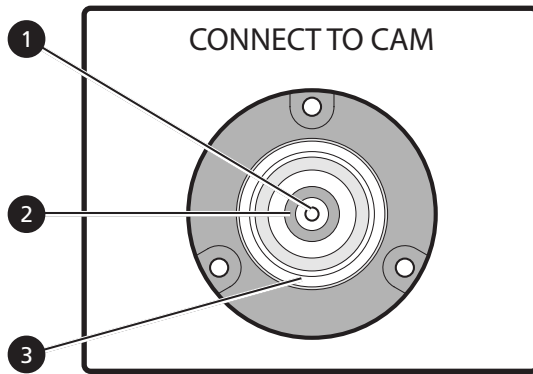
Cable length indicator

Apply power to the system. Wait a few moments for the system to start-up and then check the indicator lights on the side of the LDK 4800 HD/HS Triax Repeater unit. These indicators light to show if the optimal cable length is being used between the repeater and the camera.



- When the green indicator lights, the cable length is correct.
- When the yellow indicator above the green indicator lights, the video signal will be degraded because the cable length is too long. Shorten the cable length between the LDK 4800 HD/HS Triax Repeater unit and the camera.
- When the red indicator on top lights, video signal quality is poor and noise level will increase because the cable length is too long. The unit should not be operated in this condition. Shorten the cable length between the LDK 4800 HD/HS Triax Repeater unit and the camera.
- When the yellow indicator below the green indicator lights, the video signal will be degraded because the cable length is too short. Increase the length of the cable between the LDK 4800 HD/HS Triax Repeater unit and the camera.
- When the red indicator on the bottom lights, video signals Y and Pr/Prb will be distorted because the cable length is too short. **The unit cannot be operated in this condition!** Increase the length of the cable between the LDK 4800 HD/HS Triax Repeater unit and the camera.

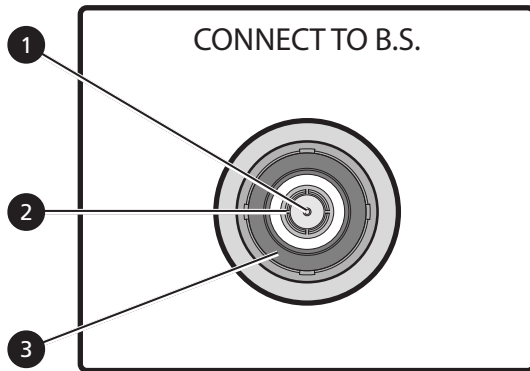
Triax connectors



Female Triax connector Camera side

1. Inner pin; Power and signals
2. Inner shield; Return
3. Outer shield; Camera housing

Triax panel connector: 3922 040 03081



Male Triax connector Base Station side

1. Inner pin; Power and signals
2. Inner shield; Return
3. Outer shield; Camera housing

Triax socket connector: 2422 031 10907
(LEMO type E2783.4001)

Dimensions

