

LDK 93

FRAME

TRANSFER

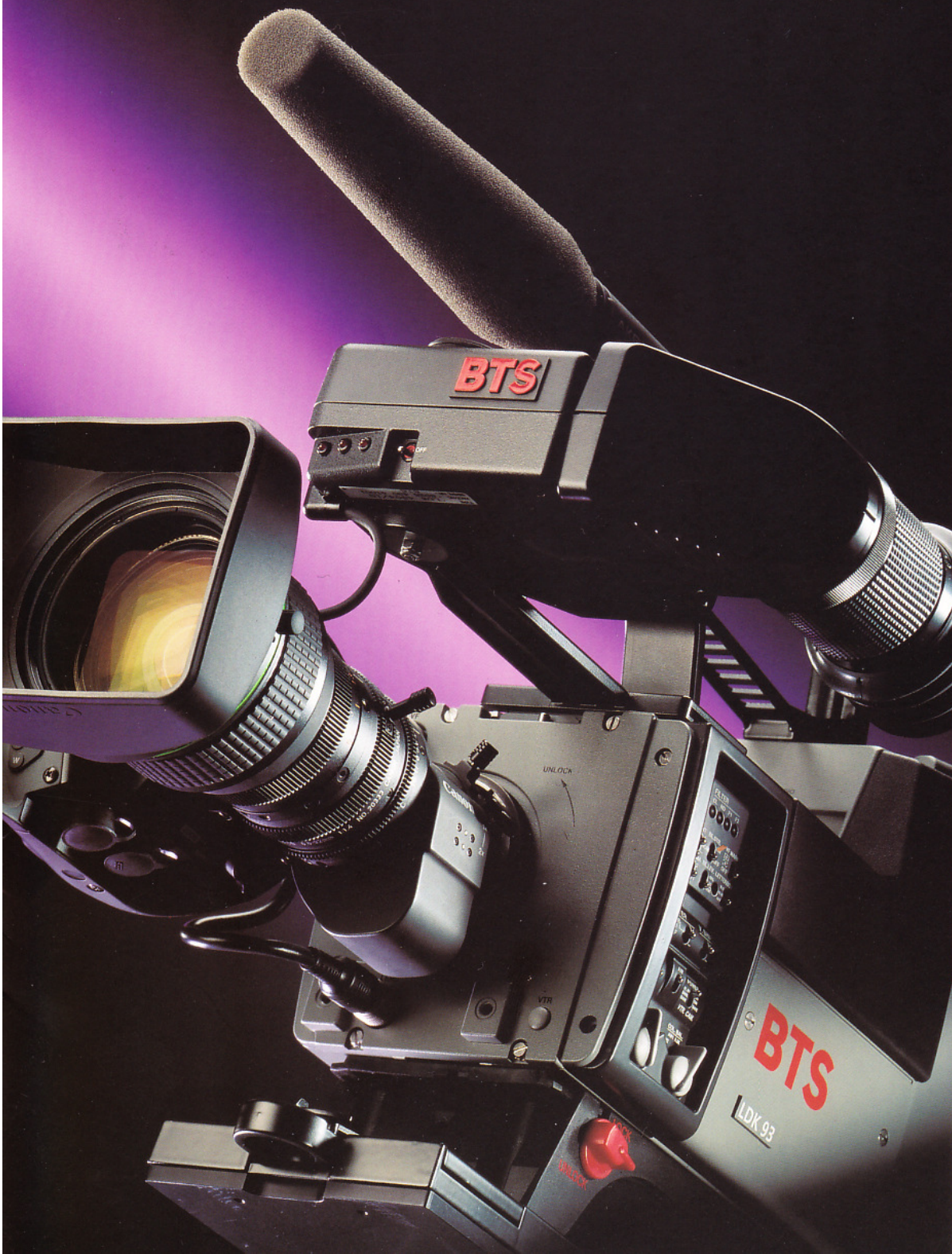
CCD

Multi-role

CAMERA

SYSTEM

....



BTS

The LDK 93 - Versatility that puts studio camera quality at your service, anywhere



Think of the picture quality you look for in a top-of-the range studio camera. Then add all the speed, versatility and ruggedness you could ask from a high performance ENG camera, and you have the BTS LDK 93.

The LDK 93 is equipped with the latest BTS Frame Transfer CCD sensor FT-5 SR to provide a unique combination of high sensitivity, resolution and contrast range, together with the low aliasing and complete freedom from smear inherent in FT sensor design.

Versatility is second to none - in ENG, EFP and in the studio. Conversion to any mode of operation is the work of seconds, and the large lens adaptor handles all studio type zoom lenses regardless of size. And interfacing with the exclusive BTS Series 9000 Universal Camera Control System provides extensive remote control facilities in triax mode.

Whether you are shooting with Betacam SP or MII, remote or local operation, the LDK 93 offers quite simply picture quality and versatility

- Film style shooting in 16:9, 16:10, 16:11, letter box formats.
- Choice of precision high-brightness, high-resolution (650 TV lines) 1½-inch and 5-inch viewfinders for ENG and EFP use.
- 4-position filter wheel with 2 effects filters.
- Large lens adaptor handles all studio type zoom lenses.
- Internationally acclaimed BTS

The FT-5 SR in the LDK 93 - top quality under all conditions

The FT-5 SR Frame Transfer sensor has linear sensitivity and resolution characteristics. At large iris settings, the camera provides highest sensitivity - when you need it - with no sensitivity losses and no flare or reflections due to on-chip micro lens elements.

Stable black shading and black balance are guaranteed with the FT-5 SR sensor. Two black reference signals, derived from the sensor, enable continuous corrections to be provided automatically on a field-by-field basis. These reference signals, which are temperature dependent, are applied to the video signal from the preprocessor, to compensate for thermal variations in the sensor. In this way you can be sure that black shading and black balance are always correct.

Equipped for creativity in studio and on location

Wherever the demands of program making take you, with the LDK 93 you'll always be free to make the most of the action - in ENG, EFP, studio or field work. The LDK 93 can be optimized to meet every situation without loss of flexibility or performance in any mode. And thoughtful design, achieved in collaboration with professional camera operators, has resulted in a practical, sturdy camera that's fast, easy to use - and more than a match for the toughest conditions.

Adjustable shoulder mount

Unique to the LDK 93 is a shoulder mount, quickly and simply adjustable to ensure the most comfortable setting for each operator. It allows perfect balance for every camera/lens/recorder combination.

Precision viewfinders for every application

A choice of two comprehensively specified viewfinders combining high brightness with high resolution covers every ENG and EFP need.

The 1½-inch viewfinder, rotatable and x-y-z adjustable, is sturdily mounted for hand-held use. It accepts 42 mm personal eye correction lenses and has a fully adjustable dioptr. Available options include anti-mist optics and a wide angle ocular for two-eye viewing. Centre cross and electronic safe area indicators are included as standard features.

For tripod-mounted EFP use, a high performance 5-inch viewfinder may be top or side mounted. This too provides a full range of indicators, including character display messages such as diagnostic data. It also features on-air and tally lights, and carries front panel controls for contrast, brightness and peaking.

LDK 93 Large Lens Adaptor

An optional Large Lens Adaptor accommodates all current studio type zoom lenses, and is designed to be able to accept future lens designs as they become available. It allows both for local powering and for use with the remote controlled triax cable system. Available lenses cover requirements ranging from manual to full servo operation.

Menu panel speeds operation

The LDK 93's menu control panel allows a variety of personal camera settings to be preset and pushbutton selected. In this way, the LDK 93 can be instantly set up for special lighting conditions such as, for example, when additional contours are needed. When working in HMI, or with TL lighting, the "lighting" control can be preset. Gamma, black stretch and exposure time can also

be preset to provide instant access as programming demands change.

The menu panel can be used in self-contained modes of operation, including ENG. In fast-action sport, the electronic exposure control can provide clearer pictures for slo-mo or stop motion replay from VTRs. The value of 1/1000 is an optimum compromise between speed of action, operator needs and sensitivity loss.

LDK 93 ENG camera

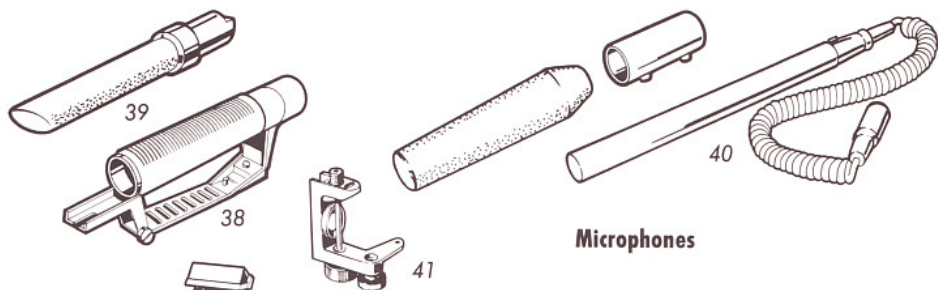
Speed and ease of use, together with a wide all-round view when on the shoulder, make the LDK 93 the ideal camera for ENG work. Four white balance memories provide instant adjustments to suit lighting changes. Two are factory preset for 3,200 K (studio light) and 5,600 K (daylight), and two are available for the operator to preset between 2,500 and 20,000 K.

A comprehensive range of accessories includes adaptors for Beta SP and MII on-camera recorders, a range of battery types and an adjustable shoulder pad.

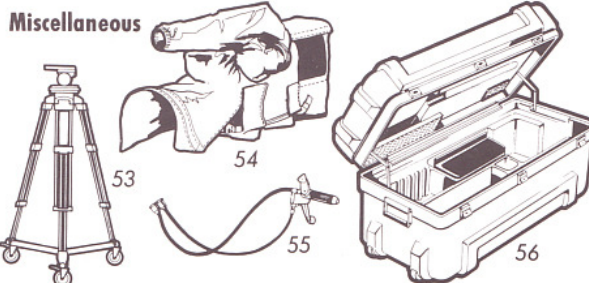
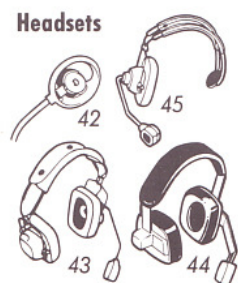
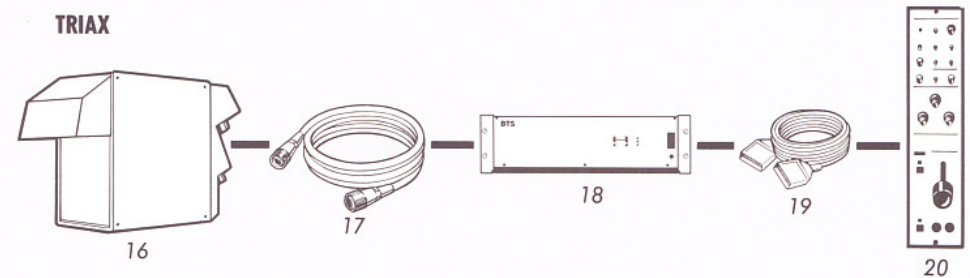
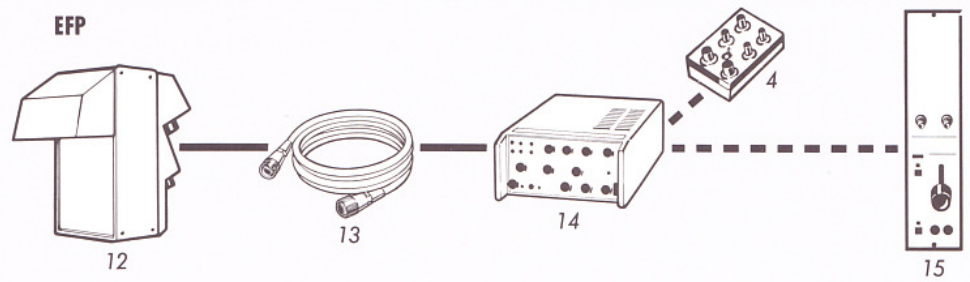
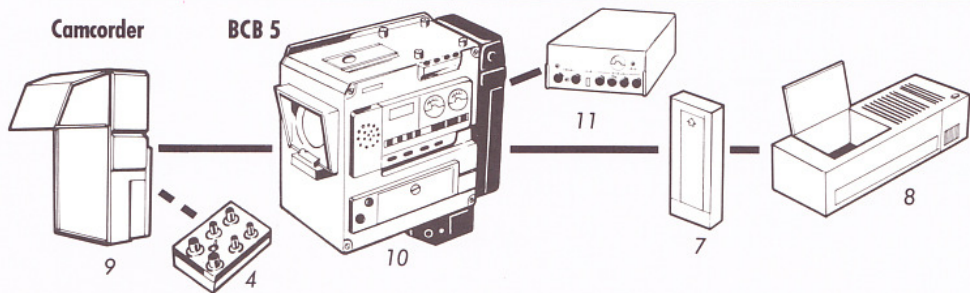
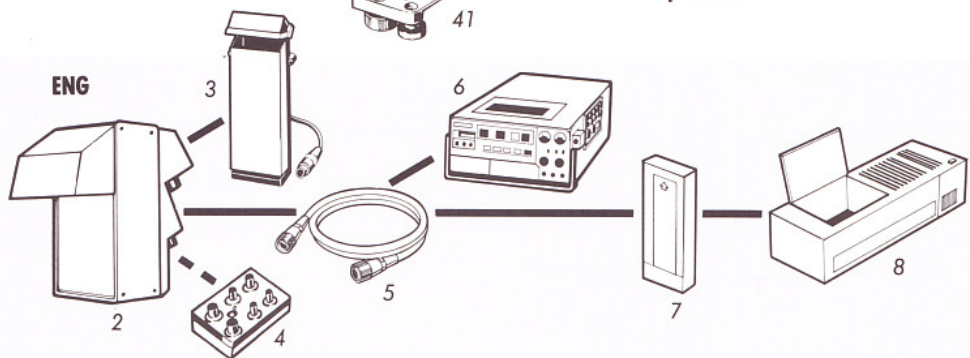
LDK 93 Remote Control EFP

For studio and field EFP applications, multicore cable (up to 300 meters/985 feet) and triax (up to 2,400 meters/7,875 feet) remote control options provide extensive production capability.

In multicore or triax modes, a comprehensive range of control options is available, including Iris, Master Black, full Painting (black and white), gamma, knee, contours, gain and comprehensive monitoring. Two- or four-wire intercom communications and the camera audio channels are also available. Full bandwidth RGB component outputs and composite outputs are provided in each mode.



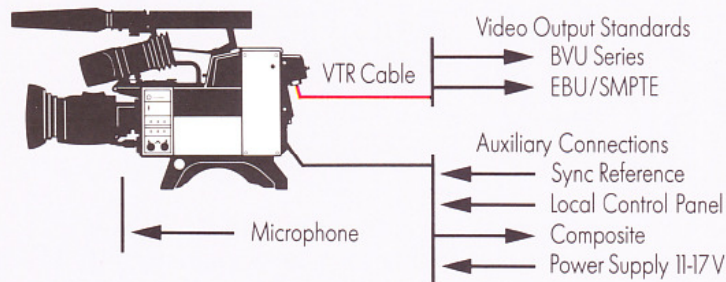
Microphones



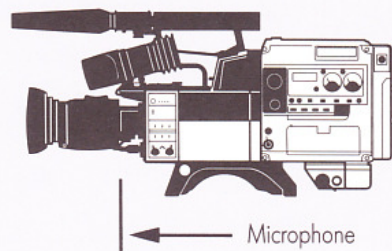
- 28 1.5" Viewfinder, incl. mounting
- 29 Wide-angle Adaptor
- 30 Anti-mist Optics
- 31 Camera Adaptor Remote Cable (2.5 m)
- 32 5" Viewfinder, incl. mounting
- 33 Supplied with 5" Viewfinder
- 34 Sunhood
- 35 Top/Side Mount
- 36 Bauer Light System (12 V)
Single bulb
Double bulb
- 37 Stand-off for light
Retractable for transport!
- 38 Handgrip (supplied with adaptor)
- 39 AKG Lightweight Microphone
- 40 AKG Condenser Microphone
- 41 Mounting Bracket for accessories
- 42 Mini-jack Earphone
- 43 Headset (Double-muff)
RTS Connector
- 44 Headset (Double-muff)
Tuchel Connector
Headset (Double-muff)
XLR 5 Connector
- 45 Headset (Single-muff)
RTS Connector
- 46 AC Power Supply
(incl. 5 m connection cable)
- 47 Bauer Battery Pack - Propac 13
- 48 Snaplock Adaptor
Frezzolini/Bauer Battery Pack
(for ENG and EFP Adaptors only)
- 49 Universal Charger - Frezzolini
LSQ 4 E Bauer Charger - 4 x Propac
- 50 Shoulder Mount Tripod Adaptor
- 51 Shoulder Padding (wide)
- 52 Chest Support
- 53 Tripods (on request)
- 54 Rain Cover
Camera/recorder combination
Rain Cover
ENG/EFP/Triax Camera with 5" Viewfinder
- 55 Lens Remote Control Kits
- 56 Transport Case
(Camera, Recorder)
Carrying Bag
(Camera/recorder combination)
Transport Case (Accessories)

Extensive application possibilities

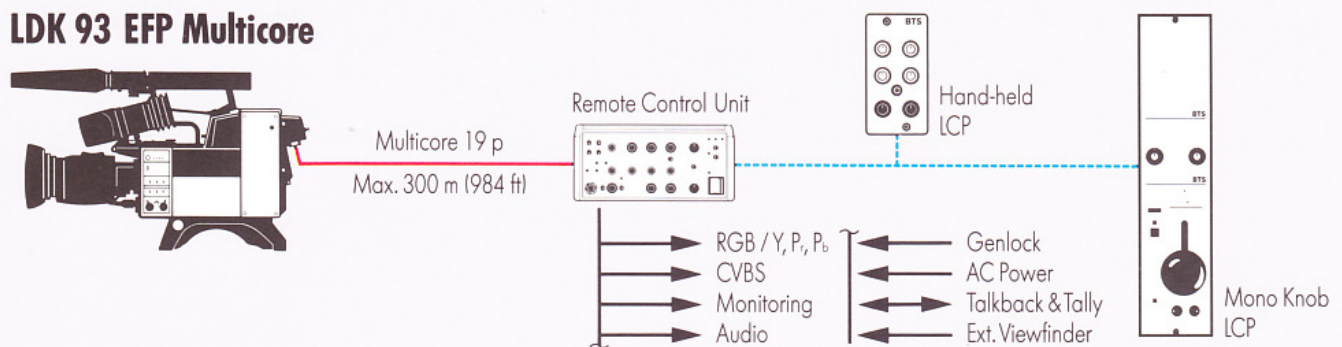
LDK 93 ENG with separate VTR



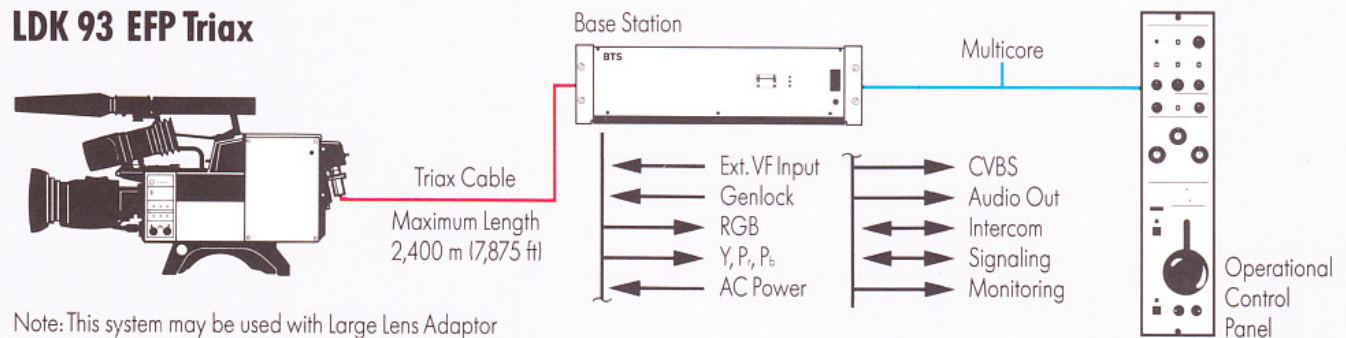
LDK 93 ENG with Betacam SP Recorder



LDK 93 EFP Multicore

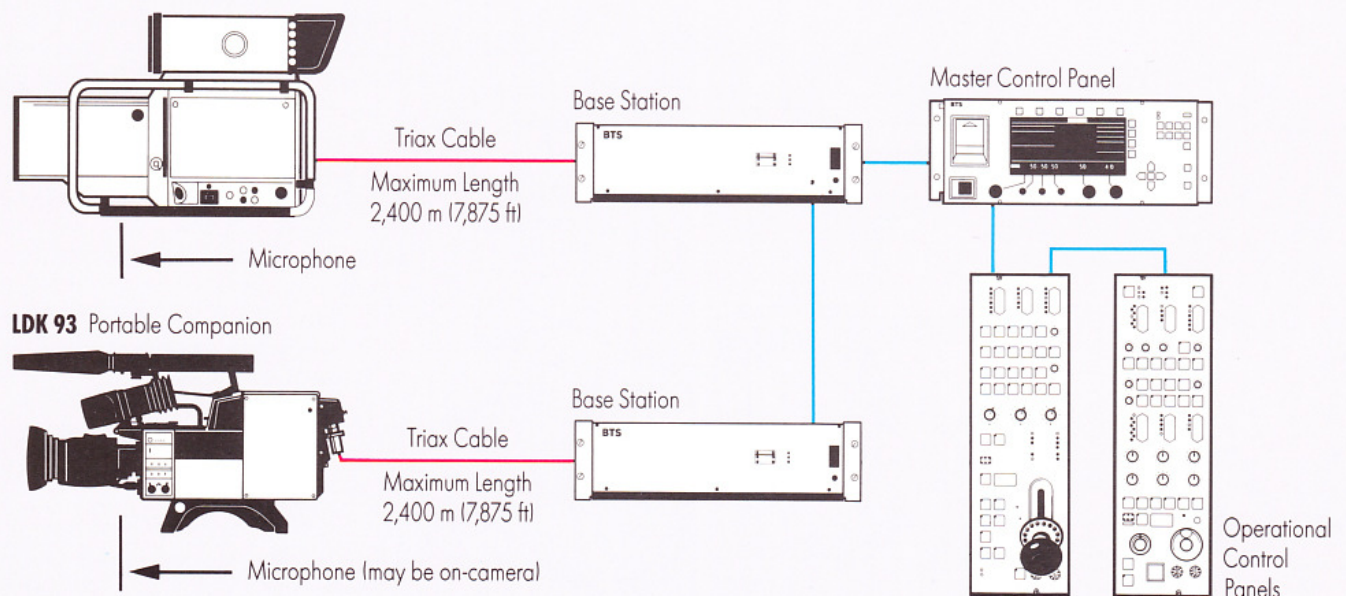


LDK 93 EFP Triax



Note: This system may be used with Large Lens Adaptor

Studio Camera Companion Mode



s p e c i f i c a t i o n s

Camera System

Transmission system

PAL/NTSC

Pick-up device

3 x 1/2-inch Philips FT-5 SR Frame Transfer CCDs

Picture elements

PAL: 774(h) x 575(v)

NTSC: 774(h) x 495(v)

Filter wheels

4-position filter wheel

Clear/ND 0.96

4p-Star/6p-Star

Video performance

Sensitivity

2000 lux (186 ft cd) at F5.2

Optically identical to F7.3 in 2/3-inch format

Condition: 3000K, reflectance 90%, 0dB gain

Minimum illumination

Approx. 9 lux (0.8 ft cd) at F1.4 and highest gain (+24dB)

S/N ratio (typ. at normal gain)

PAL: 60 dB

NTSC: 62 dB

Modulation depth

> 55% in RGB (centre)

equates to a limiting response of 700TVL

Registration

< 25 ns (0.05%) in all three zones

not including lens errors

Geometric distortion

Below measurable level (without lens)

Exposure control

Down to 1/1000 s

Lighting control

PAL: nominal 50 Hz

NTSC: nominal 60 Hz

Clean scanning (variable shutter)

PAL: 51.0 to 103.0 Hz

NTSC: 61.4 to 151.0 Hz

Viewfinders

Type

1 1/2-inch B/W

Resolution

650 TVL

Type

5-inch B/W

Resolution

650 TVL

A wide range of accessories is available for all viewfinders

ENG Adaptor

Power

11-17 V/2.3 W approx.

External input

Genlock reference, audio, intercom

Controls

Timing/headphone-earphone level

Outputs

CVBS/Components to VTR

Battery

NP1-B, 12 V, 2.3 AH

Betacam Adaptor

Input

Genlock reference

Controls

Timing/Audio recording level

Outputs

CVBS/Component to VTR

EFP Adaptor for use with RCU

Local power input

11-17 V d.c.

External inputs

Genlock, intercom, audio, EBU/SMPTE VTR 26p

Controls

Headset/earphone level, local timing

Camera cable

300 m/985 ft multicore max.

Triax Adaptor

Local power

11-17 V d.c.

External inputs

Genlock, intercom, audio, EBU/SMPTE VTR 26p

Controls

Headset/earphone level

Camera cable

2400 m/7875 ft triax max.

Large Lens Adaptor

For use with all studio type lenses

Connections

Script light, a.c. power, utility outlet, lens controls

Remote Control Unit

PAL, PAL-M, NTSC

Power

110-240 V/65 W (5-inch viewfinder)

Outputs

CVBS, RGB or components, camera mic., intercom

Inputs

Genlock, auxiliary video, PGM audio, intercom

Camera cable

300 m/985 ft multicore max.

Base Station

PAL/NTSC

Power

115/230 V \pm 15%

Outputs

CVBS, components, RGB, PXM, WFM, audio, intercom, optional digital D1

Inputs

Reference, Ext.1/Ext.2, teleprompter, program audio

Camera cable

2,400 m/7,875 ft triax max.

For use with Series 9000 system, see relevant brochure

General data

Operating ambient temperatures

-20 to +45°C (-4 to +113°F) for Camera Head

0 to +45°C (+32 to +113°F) for all other items

These typical specifications are subject to change without notice

BTS Broadcast Television Systems, a Philips and Bosch company, combines an unrivalled 60 years of experience in every aspect of broadcast technology with a record of leadership in technical advancement second to none. First to develop CCD technology 20 years ago, BTS still leads the field with the only Frame Transfer sensor technology which totally eliminates the basic problem of smear, and which combines this achievement with outstanding dynamic resolution.

BTS products are distributed in more than 120 countries, and backed by a comprehensive network of sales and service agencies to assist and advise customers throughout the world.

BTS supplies a range of products from individual cameras to complete studio systems and comprehensive installations for major international events. BTS has five decades of experience in managing complete "turnkey" projects and constructing mobile outside broadcast vehicles.

BTS products, used throughout the broadcast television and production fields, include cameras, video tape recorders, telecines, production switchers, master control switchers, routing switchers, studio automation systems, computer graphics, and multi-signal processing and distribution systems.

In addition, major research and development resources are committed to the development of products for the coming age of high definition television (HDTV) systems.

Is it any wonder more people are getting behind us?

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