

FEATURES

- **Fully Automatic Operation**
Video level stabilization through:
 - 5000:1 Vidicon Automatic Sensitivity Control.
 - Peak white limiting.
 - Stable black level control.
 - Beam current stabilization.
 - Automatic Iris (optional).No Operational Controls
- **Versatility**
 - Self-contained 2:1 interlaced scanning or optional externally synchronized operation.
 - AC or DC power input.
 - Simultaneous video and modulated RF outputs.
 - Utilizes vidicons, Plumbicons*, or silicon-vidicons.
 - Accepts standard mesh or separate mesh sensors.
 - Provides gamma correction to improve gray scale rendition.
 - Reserve video gain available for limited illumination applications.
 - FET (field effect transistor) assures excellent S/N (signal-to-noise) ratio and high sensitivity.
 - Optional automatic iris control.
- **Reliability**
 - Solid state circuits using silicon transistors.
 - Glass epoxy printed wiring boards.
- **Sensitivity**
Acceptable picture quality at 0.1fc faceplate illumination.

The new Norelco LDH-0051 Mini-Compact Camera meets the requirement for a closed circuit television camera that is rugged and extremely simple to operate while providing excellent picture quality, versatility, and high reliability. For applications such as surveillance, process control, and educa-



tional telecasting, etc., the price vs. performance advantages of Norelco closed circuit television cameras are well recognized and have been incorporated in the LDH-0051.

The performance offered by the LDH-0051 is the direct result of the experience gained in producing many thousands of EL-8000 Compact Cameras and LDH-0050 Mini-Compact Cameras. Production of excellent video tape recordings is assured by the interlaced scanning and automatic features of the LDH-0051.

To achieve reliable operation and excellent environmental specifications, circuit components are mounted on high quality glass epoxy printed wiring boards and all active circuit components are of silicon solid-state construction.

Minimum circuit noise is assured through the use of a high performance field effect transistor (FET) pre-amplifier. A power mode selector (AC-ON or DC-ON) is the only external control.

For installations requiring camera synchronization, the optional LDH-4310-S Sync Adapter (which attaches to the bottom of the LDH-0051) permits external synchronization from separate H and V drive pulses, and each unit is provided with a horizontal phasing adjustment to correct timing. Upon removal of the H and V drive pulses, the LDH-0051 automatically reverts to the built-in 2:1 interlaced scanning mode. Optional automatic iris controls are available to optimize camera operation in those situations where the light level variation exceeds the rated range of the camera. Camera video output level is stabilized through a combination of iris variation and vidicon target control.



Mini Compact Camera with Optional Sync Adapter

SPECIFICATIONS

ELECTRICAL

Input Voltage

AC: 117V $\pm 10\%$, 50/60 Hz

DC: $-12V \pm \frac{1}{4} V$

Operation from nominal AC voltages of 110, 220, and 234 VAC can be achieved by changing transformer connections. The camera is protected against reverse DC polarity connection.

Input Power

AC: 18VA

DC: 8W

Vertical Sweep Rates

Line Locked Mode: 60 Hz with lock-in range of ± 2 Hz and hold-in range of ± 4 Hz

Free Running Mode: 60 Hz ± 2 Hz

Operation at 50 Hz vertical sweep rate can be achieved by simple internal changes. Same tolerances apply.

Horizontal Sweep Rates

15.75 kHz (525 lines/frame)

Operation at 15.625 kHz (625 lines/frame @ 50 fields/sec) can be achieved by simple internal modifications.

Scanning

Internal: Positive 2:1 interlace from internal sync generator (525 lines/frame @ 60 frames/30 fields/sec or 625 lines/frame @ 50 frames/25 fields/sec.)

External: Optional unit (LDH-4310-S) permits external synchronization from negative horizontal and vertical drive pulses.

Sync & Blanking Waveform

In accordance with EIA Standard RS-330

Camera Tube Types

One-inch, with 6.3V/0.095A filament:

Standard Mesh Vidicon: XQ-1032 or equivalent

Separate Mesh Vidicon: XQ-1240 or equivalent

Plumbicon: XQ-1071 or equivalent

Silicon-Vidicon: S-1200 or equivalent

Resolution

Horizontal: 600 TV lines at center of picture

Vertical: 350 lines

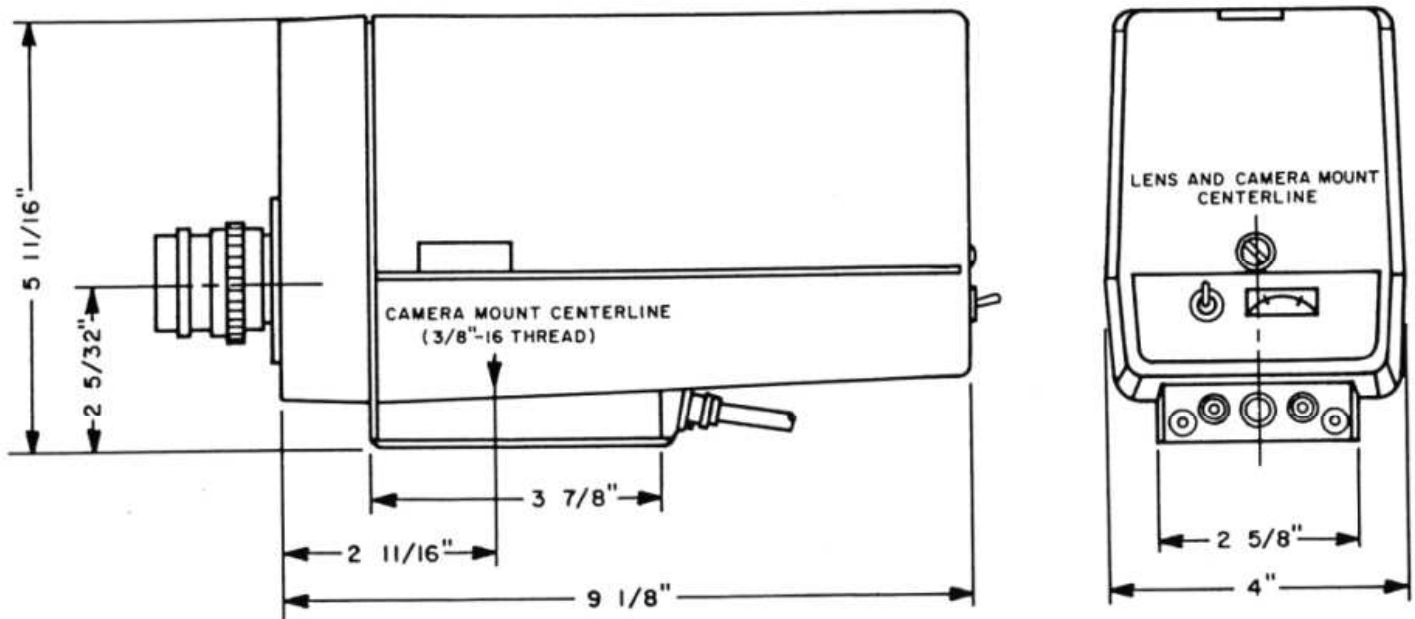
Resolution Stability

With Temperature:

Meets resolution specifications over rated temperature range

With Input Voltage Variation:

Meets resolution specification over rated voltage range



Sensitivity

Adjustable to produce standard 1V p-p video signal from 150 to 300 nAp-p target current. Nominal sensitivity for 1V p-p video: 200 nAp-p target current.

Amplifier Signal-to-Noise Ratio

At Nominal Sensitivity (200 nAp-p): -39 dB
 At Maximum Sensitivity (150 nAp-p): -37 dB
 At Minimum Sensitivity (300 nAp-p): -43 dB
 (Measured with a 5 mHz low-pass filter)

Automatic Light Control (Vidicon Operation)

Range of Automatic Target Voltage Control - 5000:1
 Response time from light to dark - Approx. 6 seconds
 Response time from dark to light - Approx. 3.5 seconds

Black Level

Adjustable and fixed by line-by-line clamp circuit

White Level

Limited to 1.05 V p-p signal amplitude (non-composite)

Gray Scale Rendition

Reproduces 10 shades using EIA test chart

Aspect Ratio

4:3

Output Signals

Video: 1.4V p-p composite signal (black negative) or 1.0V non-composite, into 75 ohm unbalanced load
 RF: 8-15mV (rms) modulated RF with approximately 80% modulation, channel 4 (tunable to channels 2 and 3). Into 75 ohms unbalanced load

Geometric Distortion

Less than 1% of picture height within a circle of diameter equal to picture height.
 Less than 2% of picture height elsewhere

MECHANICAL

Overall Size

4"W x 6"H x 10"D

Weight

9 pounds

Lens Mount

C-Mount (1" X 32), focusing

Mounting

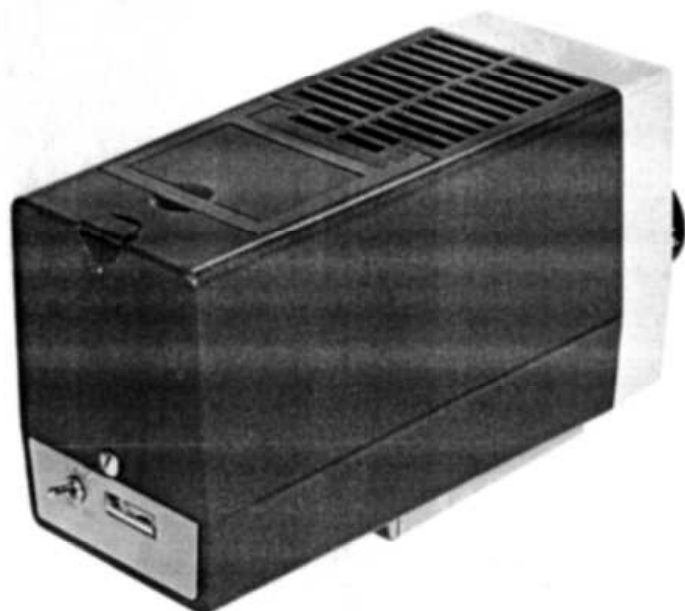
1/4" X 20 threaded hole in base

Input Connectors

AC: 3 prong grounding plug, 5 meter lead
DC: ROKA connector (Optional, LDH-8113/00)
Sync: 2X BNC (on optional LDH-4310-S)

Output Connectors

Video: BNC
RF: BNC. Output transformer for 75-300 ohms supplied with 10 meter lead



REAR VIEW

ENVIRONMENTAL

Temperature

-10° C to +45° C

Humidity

To 95%

Vibration and Shock

Normal Commercial Shipping

Electrical Controls

Camera rear panel - AC-on/DC-off, AC-off
DC-on, Light Level Indicator

Optical Controls

Equipped with tip-up viewfinder window

ORDERING INFORMATION

PBEC Order No.

1100-3010	LDH-0051/04 Mini-Compact Camera with XQ-1032 vidicon, less lens
1100-3060	LDH-0051/07 Mini-Compact Camera less lens and vidicon
8902-2011	LDH-4310-S Sync Adapter
0900-0150	LDH-8113/00 D.C. Power Cable Assembly

Norelco[®]

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