The Thermo Scientific camera I3710D-XD4 is a high gain, gated intensified CID based camera consisting of a model 3710D solid state RS-170 version camera with 12 x 13.7 micron (4:3 aspect ratio) pixels, fiberoptically coupled to a high performance XD-4 image intensifier tube from DEP.

**Thermo Scientific I3710D-XD4**
Intensified Solid State Camera

**Designed for Ultra low light**
The I3710D-XD4 is a gated intensified CID based camera consisting of the 3710D RS-170 version camera with 12 x 13.7 micron pixels, fiberoptically coupled to a high performance 18mm XD-4 Image intensifier tube. The standard XD-4 tube has an S-25 photocathode with P43 phosphor and is equipped with an integrated power supply for high speed gating allowing for shutter intervals <50ns and exhibits low noise / high gain performance with typical light gain of 30,000X.

**Maximum Flexibility**
Intensifier gating may be controlled automatically, or manually via control knob or with external TTL input. Intensifier gain is manually controlled via the Gain control knob, or by the AutoGain feature. The MCP uses a low noise photocathode sensitive from 400nm to at least 800nm. Internal adjustments allow for control of black level setup, edge enhancement and 2X video gain boost. Options include digital control, optical coupling, Autogate/Autogain only, Progressive Scan, and CCIR format. The I3710D-XD4 camera features a 2:1 interface scan 776(H) x 512(V) CID array with 12 x 13.7 micron pixels in a compact remote head connected to the camera control unit via flexible 2 meter cable.

**Features:**
- CID (Charge Injection Device)
  - High resolution, High MTF
  - High speed gating to 50ns minimum
  - Excellent image at 7 x 10(5) rads/hr
  - 18mm DEP XD-4 image intensifier
  - Sensitivity 5 x 10^-6 fc at faceplate
  - Typical 30,000X light gain
  - Precise edge detection
  - Auto Gate/Gain with manual control
  - RS-170, 2:1 Interface scanning format
  - 12 x 13.7 micron contiguous pixel

**Applications:**
- Extremely low light level inspection and measurement
- Remote gaging, metrology
- Florescence microscopy
- X-Ray Imaging
- Machine vision
- Spectroscopy

Part of Thermo Fisher Scientific
### Product Specifications

**Imager**
- **Image Format**: 776H x 512V
- **Total Pixels**: 768H x 475V
- **Pixel Size**: 12 x 13.7 micron
- **Full Well Capacity**: >250,000 electrons
- **Active Area**: 11 mm diagonal
- **Optical Format**: 1”

**Electrical**
- **Scanning Format**: RS-170, 30FPS, Interface
- **Resolution**: >400 TVL (horizontal)
- **S/N Ratio**: >30db at 10 lux
- **Typical tube SNR of 20 nm**: Typical tube SNR of 20
- **Sensitivity (typical 800nm)**: 5 x 10⁻² c (Faceplate)
- **Gain**: 0db Gain, (T=2850K)
- **Composite Video**: 1V p-p, terminated into 75 ohms
- **Black Level**: +50mV (Auto Clamp)
- **White Level**: +700mV
- **Sync Level**: -300mV
- **Geometric Distortion**: 0%
- **Input Power**: 15 Watts (max.)
- **Input Voltage**: +15VDC Nominal
- **Input Current (@15V)**: 1.1A avg.
- **Spectral Response**: See Response Curve

**Interface Signals**
- **Outputs**: J1 Video, End of frame, End of Line, H&B Drive, Composite sync.
- **Inputs**: J1 +15VDC, Sync
- **Gain**: X2, X4 (internal SW)

**Mechanical**
- **Weight**: CCU 0.96 kg, (33 oz)
- **Cable Length**: 2 Meters
- **Lens Mount**: Standard “C” Mount (1” - 32 Thread)
- **Camera Mount**: 1/4” - 20 Thread
- **Connectors**: J1 25 Pin D (male)
- **Dimensions**: 7.5”(L) x 7.5”(W) x 1.025”(H)

**Environmental**
- **Temperature Range**: Operating 0C to 30C case
- **Storage** -25C to 85C

### Thermo Scientific I3710D-XD4 Intensified Solid State Camera

The I3710D-XD4 intensified solid state camera is part of a proven line of intensified cameras and sensors whose applications span a full spectrum of industries and applications. Thermo Scientific CIDTEC Cameras & Imagers have been in business for over 25 years with imaging products in scientific, machine vision, aerospace, medical, and radiation hardened markets.

![Typical Photocathode Responsivity (mA/W):](chart.png)

**Typical Photocathode Responsivity (mA/W):**
- **400nm**: 14.3 mA/W QE=4.4%
- **480nm**: 43.9 mA/W QE=11.4%
- **520nm**: 57.1 mA/W QE=13.1%
- **560nm**: 59.7 mA/W QE=13.3%
- **700nm**: 58.3 mA/W QE=10.46%
- **800nm**: 60.7 mA/W QE=9.4%

*note: export restrictions may apply*