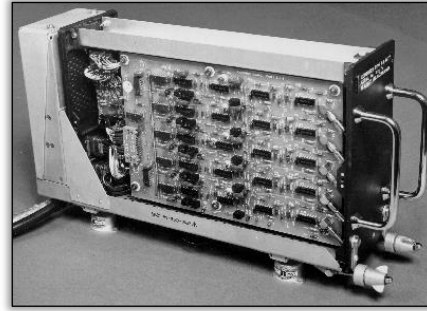




*Universal, Life-Saving, Essential*



## HOSTILE FIRE INDICATOR TYPE 740

The Hostile Fire Indicator [HFI] Type 740 is a device which gives a warning to the pilot of a rotary wing aircraft that they are under small arms fire, and indicates the general direction from which that fire originated.

The design of the equipment is based upon the detection of the shockwave front generated by a supersonic projectile. The system calculates the set of bullet velocity vectors which thus shows the direction of the source of the possible hostile fire. On receipt of an indication, the pilot would normally be able to

take avoiding action and minimise the danger of a subsequent direct hit, the exact pilot action being dependent on the operational conditions prevailing.

Although the standard unit is designed for rotary wing aircraft, there is a more compact unit for attachment to ground-based vehicles. The Vehicle Hostile Fire Indicator [VHFI] may be attached to VIP cars or armoured personnel carriers.

The VHFI system comprises the same basic units, however the sensor array is more compact and there may be multiple arrays fitted to vehicles with protruding parts e.g. turrets.

## MINIMISE THE DANGER

### Versatile:

- All small arms projectile types detected.
- Responsive to wide misses.
- Ground-based vehicle adaptability.

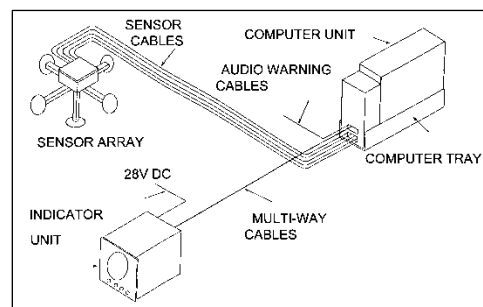


### Tough and Convenient:

- Compact design.
- Easy operation.
- Reliable operation.

### Simple and Effective:

- Instant feedback.
- Visual and audio warnings.
- Clear indication.



## HARDWARE

### Sensor Array

- **Five sealed piezo-electric plate transducers** are mounted at the ends of five mutually orthogonal tubes, four of which lie along the positive and negative horizontal axes, with the fifth mounted in the axis perpendicular to the other four.
- **Anti-vibration mounts** connect the transducers and support arms to a junction box.
- **Five coaxial leads** carry the transducer signals from the junction box to the computer.

### Computer Unit

- **3/8 ATR short case** houses this unit.
- **Five-channel amplifier** converts the pre-processed transducer signals into a logic signal format.
- **Logic circuitry** determines the occurrence and spatial orientation of a valid shock wave front, and computes the possible sources of hostile fire which could have produced the shock wave.
- **Information is visually displayed** on the indicator unit.
- **Audio warning signal** in the form of a 1 second, 300Hz square wave tone is injected into the intercom system to give the pilot additional indication of a detected shock wave.

### Indicator Unit

- **Standard 4ATI case** situated in the aircraft instrument panel houses this unit.
- **Red disc** on the front of the unit is divided into eight, 45° segments, each one of which may be individually illuminated.
- **In the event of hostile fire**, 4 contiguous segments are illuminated for 5 seconds, producing a 180° arc which indicates the possible locations (relative to the helicopter axes) of the source of fire.
- **Where an unambiguous indication cannot be given**, the full 360° display is illuminated.

## SPECIFICATION

CONFIGURATIONS	
<b>Power Supplies</b>	28V ± 5V DC (22V emergency)
<b>Power</b>	30W + 35W display illuminated
<b>Sensitivity</b>	Responsive to supersonic projectiles with miss distances of up to 20m
<b>Calibration</b>	By means of special purpose Test equipment
<b>Display</b>	180° floating sector, illuminated for 5 seconds
<b>Audio Warning</b>	300Hz square wave, duration 1 second
<b>Self-Test</b>	B.I.T.E from amplifier inputs onwards is provided
CONTROLS	
<b>Power ON/OFF Switch</b>	Power on/off
<b>RESET (Switch)</b>	Cancels the current display and readies the system for new input
<b>RESET (Switch)</b>	Initiates an internal automatic test sequence producing an easy-to-follow sequence of displays lasting

	approximately 10 seconds. If the sequence of displays is completed, then the system has undergone a thorough self-testing procedure successfully
ENVIRONMENT	
<b>Operating Temperature (Flight)</b>	-10°C to 50°C [14 °F to 122 °F]
<b>Operating Temperature (Ground)</b>	-10°C to 50°C [14 °F to 122 °F]
DIMENSIONS	
<b>L x W x H (Sensor)</b>	305mm x 305mm x 195mm [12.0in x 12.0in x 7.7in]
<b>L x W x H (Computer)</b>	94mm x 41mm x 228mm [3.7in x 1.6in x 9.0in]
<b>L x W x H (Indicator)</b>	106mm x 106mm x 125mm [4.2in x 4.2in x 4.9in]
<b>Weight (Sensor)</b>	1.097kg [2.4lbs]
<b>Weight (Computer)</b>	3.95kg [8.7lbs]
<b>Weight (Indicator)</b>	1.25kg [2.8lbs]

**USED WITH**



*Nimbus Type 155*



*Strafe and Gunnery Target Type 590*



*Bomb Scoring System Type 650*

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The information in this document is correct at the stated time. MS Instruments Ltd has a policy of continuing development and reserves the right to make design changes/improvements to the products.