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War reporting goes hi-tech

Technology is gradually bringing the front line and the living room closer together.

Improvements to equipment used by reporters travelling with troops in Iraq mean that viewers are getting unprecedented access to a war as it unfolds.

Small satellite phones, laptop video editing software and light digital cameras are helping journalists file broadcast-ready reports direct from combat zones.

Technology is bringing people closer to the war

Before now, many journalists in war zones had to put reports on tape which then had to be carried far behind the frontline before being broadcast.

Two-man team

Just as computers have shrunk to a size that can easily be carried around so have many of the devices that frontline journalists use to file their reports.

In 1991, during the Gulf War, satellite phones existed but weighed up to 40 kilograms and had to be powered by mains electricity or a generator.

The devices were luggable rather than portable and made it hard for reporters to deliver pictures of events as they were happening.

Mark Tyrrell, manager of resources and development in the BBC's Newsgathering arm, who helps to kit out reporters in the field, said technology had improved considerably by the time this conflict began.

> 66 **The information is more important than the medium by which it is carried** 99
>
> Mark Tyrrell, BBC Newsgathering

He said "embedded" reporting teams that were travelling with troops could only be made up of two people; one reporter and a cameraman/editor.

As a result, he said, the equipment they carried had to be easily portable.

Powerful package

Now, he said, satellite phones were little bigger than a laptop computer and could easily be moved around.

Even better, he said, was the fact that the phones were battery powered, allowing embedded journalists to stay up with troops as they advanced.

The quality of the video and audio sent back is better than

before because the satellite phones use ISDN which gives them more bandwidth than is available via ordinary phone lines.

Reporting via satellite link circa 1991

"Once you get on the public ISDN network you can do file transfer and start using audio coding and decoding devices to give you studio quality audio," said Mr Tyrrell.

The satellite phones can also do live, low-quality video conferencing via ISDN.

The ability to send back these reports was changing the way that wars were reported, said Mr Tyrrell.

"If you are with the frontline troops there's an element of eye-witness that can be compared and contrasted with reports from official briefing rooms or politicians," he said.

The poor quality of these reports was outweighed by their value, he added.

"The information is more important than the medium by which it is carried," he said.

The satellite phones allow reporters to send back much higher-quality video, too, albeit slowly, said Mr Tyrrell.

Drip feed

The phones can stay in constant contact via the Thuraya network which uses geostationary satellites whose footprint covers the Middle East and Europe.

As a result, large files can be dripped back slowly to the BBC for broadcast and for use in news bulletins. Mr Tyrrell said every minute of broadcast quality video took 25 minutes to be transferred via the satellite network.

Journalists were on the front line in Vietnam too

Reporters are also equipped with Iridium satellite phones that connect via a constellation of spacecraft orbiting around 675 kilometres (420 miles) high.

Mr Tyrrell said reporters were using these less because they tended to connect less reliably than the Inmarsat phones that link via the Thuraya network.

In addition to satellite phones, BBC reporters are using the Panasonic ToughBook, a ruggedised laptop, to edit video and audio reports in the field and prepare them for transmission.

The laptops can survive life on the frontline but the biggest danger to the laptops was sand.

"The tiniest bit of grit could destroy things like USB connectors," said Mr Tyrrell.

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