

UHF CHANNEL TRAP

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Powerful repeaters for cellular radio and paging systems, or a strong local UHF TV transmitter, can wreak havoc with the reception of your favourite TV channel. This is usually caused by excessive field strength and resultant intermodulation in the aerial booster or the UHF input stages of the TV set. Cancel the interference once and for all with this simple two-component notch that covers the entire UHF TV band.

Ghost pictures, moiré effects, poor synchronization, colour corruption, picture inversion and even complete receiver detuning are but a few of the awkward problems suffered by TV owners having their own roof-mounted aerial installation, but unfortunate enough to live close to a transmitter site with UHF stations on it.

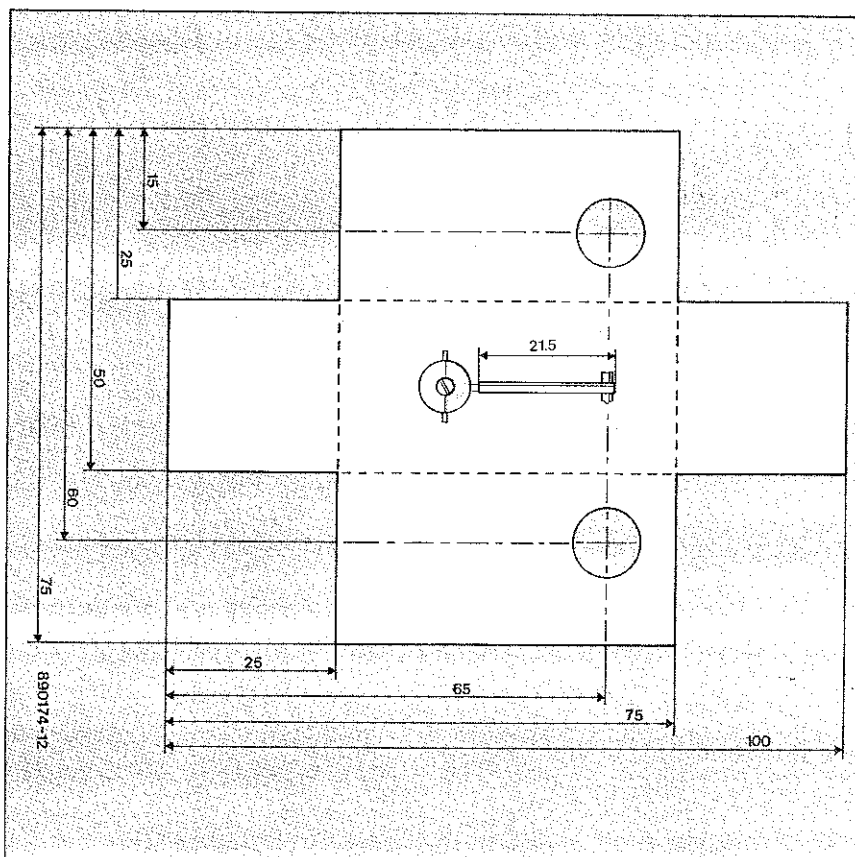
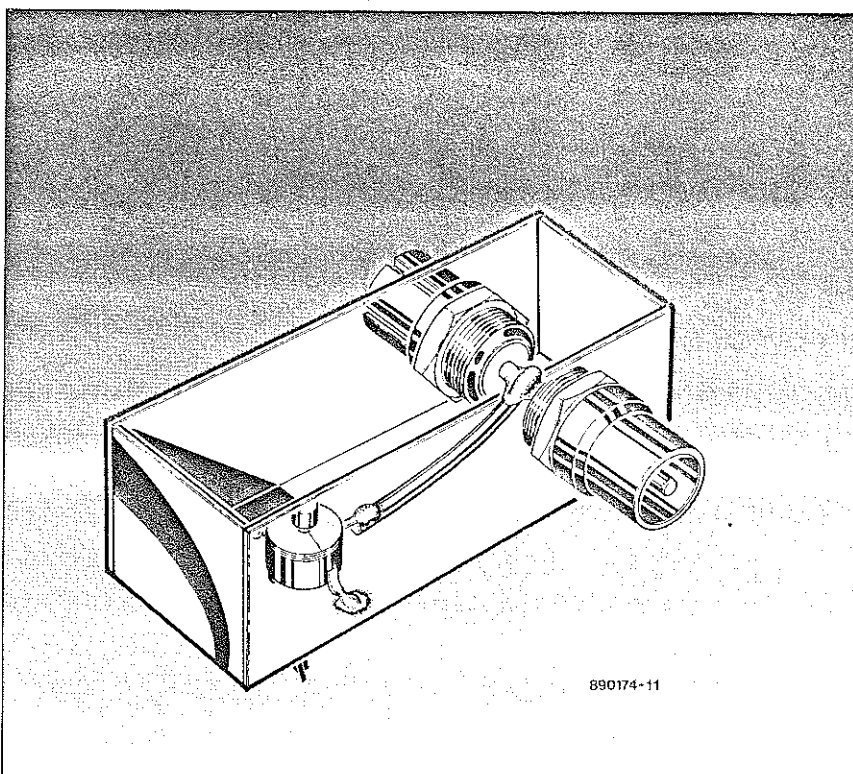
Problems may arise almost overnight when you find that a particular TV channel suddenly has a lot of interference on it, or is simply replaced by an moving pattern with accompanying buzz on the sound channel. On investigating the matter, it may be found that a UHF cellular radio repeater has been installed recently on a nearby elevated building. The strong signal in the 600 or 900 MHz band blocks the preamplifier in your aerial booster or TV set, or, more precisely: the d.c. setting of the preamplifier is shifted to the extent that the stage acts as a mixer or even a demodulator or frequency multiplier (varactor effect).

Similar problems may occur if a strong TV signal blocks reception of a relatively weak programme on a nearby channel.

30 decibel down

Receiver overloading may be prevented by suppressing the strong, unwanted component in the input frequency spectrum. The present circuit does this with the aid of a series L-C filter that can be tuned to the interfering frequency. The filter acts as a high-Q notch, offering a suppression of more than 30 dB at the resonance frequency.

As shown in the drawing of Fig. 1, the inductor is a length of 1 mm dia. silver-



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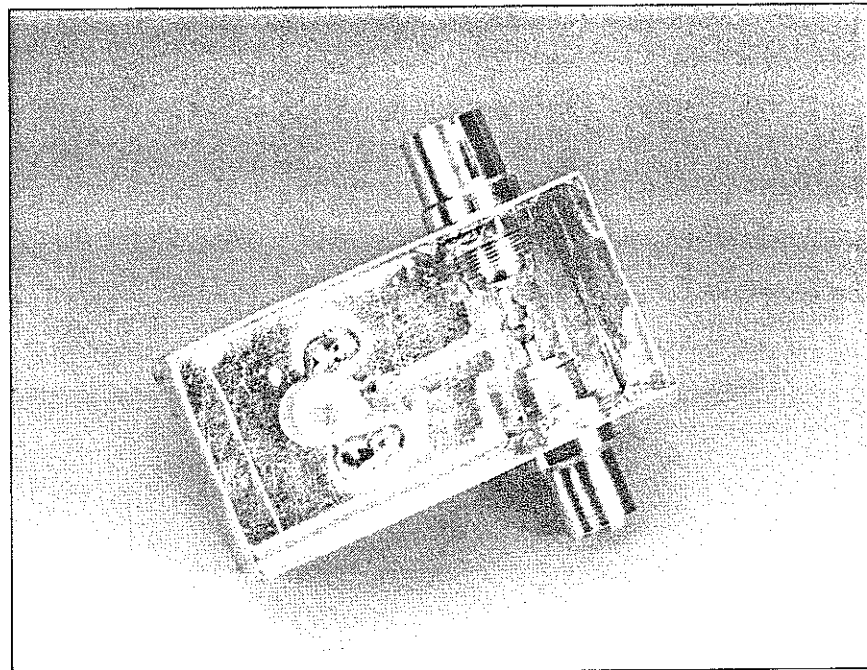
plated wire connected to a 5.5 pF PTFE foil trimmer (colour code grey, Philips Components). The stator terminal of the trimmer is bent forward and soldered to the inductor, while two rotor terminals are soldered direct to ground. This L-C combination covers most of the UHF TV frequency range (approx. 470-870 MHz), and gives far better results than, for instance, a quarter-wavelength coax stub.

The trap is housed in a screened enclosure made from sheet metal (tin-plate or brass). Coax sockets enable the trap to be installed in the cable leading to the input of the aerial booster. Do not fit the trap between the output of the booster and the input of the TV set — it has no effect there because the interference is caused in the booster!

One socket on the trap may be replaced by a coax plug to enable the unit to be plugged direct on to the output of the coupling/filter unit, if used.

Alignment is simple: tune to the TV channel you want to watch, and adjust the trimmer until the picture is free from interference. The adjustment is fairly critical due to the high Q factor of the L-C filter. If there is more than one source of interference, each of these must be suppressed with its own trap, tuned to the relevant frequency.

Alternatively, if you want to block out a particular TV channel permanently



whose reception is otherwise all right (cable networks), adjust the trap for maximum suppression. The TV channel will vanish into noise as you reach the channel frequency. Remember that each channel to be suppressed needs its own trap, un-

less one acts on a number of channels simultaneously, which is not likely to occur on a cable TV system.

Extended coverage for BBC TV Europe

BBC TV Europe is a simultaneous relay of the BBC-1 service broadcast in Britain, with BBC-2 programming replacing feature films and purchased material, to give the European viewer an 18-hour per day service of the best of the BBC at the same time it is seen in the UK.

Satellite transmissions of BBC TV Europe began in June 1987, following an agreement between the Danish Telephone Companies and the BBC. The service was extended to Norway later in 1987 and to Sweden in 1988. As of April 1st of this year, BBC TV Europe is transmitted from an east-spot transponder of the Intelsat-VF11 at 27.5 degrees West.

From its start in 1987, BBC TV Europe has steadily attracted more viewers, and now reaches over a quarter of a million households via the Scandinavian cable networks. The use of the east-spot transponder, however, allows direct-to-home reception also if a dish of 1.2 m or larger is used.

BBC TV Europe, like the BBC in the UK, does not carry advertising. Therefore the signal is scrambled and the cost recovered by making a charge to cable companies or direct to home viewers. The SAVE decoder required is available through local agents from Sat-Tel.

BBC Enterprises Limited • Woodlands

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Intel unveils industry's first EISA chip set

Intel's 82350 EISA bus chip set consists of two system board devices that provide 100% compatibility with the EISA bus. In addition, Intel is supplying a bus master device for add-in cards, and a bus buffer device that integrates system board glue logic. Included in the new chip set are the 82357 Integrated System Peripheral (ISP) and the 82358 EISA bus controller (EBC), which recognizes and works with both the 32-bit 386 and i486 processors.

Intel also plans to provide the 83252 EBB for those manufacturers seeking higher integration for the system board. The EBB contains buffering logic for any one of three modes, including address, data and parity control, replacing as many as 17 TTL components. Though not strictly required for EISA compatibility, the EBB will help system designers meet critical EISA timing demands.

Intel Corporation (UK) Ltd • SWINDON. Telephone: (0793) 696000.

Eutelsat participates in Olympus communications experiments

Eutelsat, the European Telecommunications Satellite Organization, and operator of four Eutelsat-1 telecomm satellites, is an active participant in the definition, application and assessment of the communications experiments to be conducted on the recently launched Olympus experimental communications satellite.

Eutelsat has proposed 22 experiments to the European Space Agency (ESA) to be conducted on Olympus. A total of 17 are for the 20/30 GHz payload, four for the 12/14 GHz specialised payload and one for the DBS payload. These experiments will include teleseminars, news gathering, data distribution to microterminals, SS-TDMA and narrowcasting. The first experiments are expected to start in mid-October.

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