

## Setting Up

When the modified receiver is first switched on, it goes into a 'self-test' mode before going into 'standby'. It is now ready for use. Before powering up again, the relevant dish and LNB should be connected to the receiver, along with the TV or monitor. Trac recommend the set up shown in Figure 1. 21-pin SCART (Peritel) or UHF outputs are provided – with a press of a rear-mounted 'set up' button, a nice blue screen with copyright message greets you once your TV set has been tuned in. For best results, a monitor with full-specification SCART should be used, as the MAC channels provide a RGB output; in addition, the MAC stereo sound, where broadcast, can only be enjoyed via this socket. Only one SCART socket is fitted unfortunately; this is a criticism of the original receiver – and I remember reading reviews in 1990 satellite television magazines noting this shortcoming. The BSB receiver manufacturers said that 'second generation' models would remedy the situation. Sadly, these were not to be!

## In Use

The modified unit has 60 programmable channels, most of which have been preprogrammed for various Astra, Eutelsat and DBS satellite channels. All can be reprogrammed, but the original settings can be reverted to at anytime.

A press of the MENU key on the handset activates the main menu. As with most satellite receivers in this enlightened age, to save costs, few buttons adorn the fascia of the receiver (up/down and standby). Of course, this is a complaint about the original

receiver. Some might argue that these three buttons were sufficient for the pre-tuned 5-channel (later to be 10-channel) service for which the unit was originally designed.

From the main menu can be accessed eight sub-menus. The first of these is the video tuning menu – the first IF can be tuned from 950 to 1700MHz in 3MHz steps (the last 50MHz are knocked off, which precludes receiving MCM, which is low enough in the DBS band to be received on most standard LNBs. A shame...). For some reason, the on-screen display is only visible when tuning whilst in one of the MAC modes – when in the non-MAC (hereafter referred to as 'PAL') mode, you have to rely on the receiver's LED display, which counts from 0 to FF in hexadecimal. In the MAC mode, the station's ident, if transmitted, is displayed – a nice touch.

Sound tuning is evoked from the second sub-menu. In the PAL mode, the audio subcarrier is tunable between 5.5 and 8.5MHz. No mention is made of bandwidth, but I suspect that it's a compromise – it adequately serves both the full bandwidth of the primary subcarrier and the narrow bandwidth of the Wegener subcarriers. It's a pity they didn't take the tuning up as far as 9MHz (to get those obscure radio stations on the French Telecom 2B satellite (5°W)) – but you can't expect everything at this price. Stereo would be nice as well! In the MAC mode, a list of the auxiliary audio services (radio, etc.) is displayed, and these can be selected by pressing the appropriately-numbered button on the handset.

The action of the third sub-menu depends upon the receiver's operating mode. In the PAL mode, it is used to

switch in a Videocrypt decoder connected to the redesignated 'DATA' socket at the rear of the receiver. In the MAC menu, the picture format can be controlled. Many experimental HD-MAC transmissions (which have a 16:9 aspect ratio) have recently been taking place on the Eutelsat, European DBS and Telecom satellites. The '16:9' mode expands the width of the picture if a conventional 4:3 set is being used (so that it doesn't look 'squashed up'). Since the information at the sides of the screen will inevitably be lost, an automatic and manual panning facility is provided so that you can see what's missing. When the automatic panning feature is active, the picture area visible is under the control of the broadcaster i.e. you see what they feel you should see! Alternatively, you could use the manual panning feature to give yourself control over the picture. Apart from overriding the personal taste of the programme editor, manual panning is essential with certain widescreen transmissions (a large number, surprisingly) where the automatic panning or widescreen identification data is not present. Although this information is not supplied in the instruction manual, pressing 'shift' and 'enter' together allows you to use the left and right arrow keys to manipulate the picture to your personal preferences.

It must be noted that the provision of the widescreen compatibility – and 'Softscram', another (exceptionally useful) facility – are dependent upon the vintage of the MAC decoder chip in your receiver. 'Softscram', by the way, enables the receiver to decode soft-scrambled Eurocrypt broadcasts – e.g. Canal+ at certain times – by retrieving the 'free access' control words from the MAC data packet. Similar, in fact, to the soft-scrambled Videocrypt system as used by UK Gold, although the latter system transmits the required data in the vertical blanking interval.

Unfortunately, however, widescreen compatibility and Softscram will only work if the ITT DMA2285 MAC decoder IC (the right-hand 60-pin PLCC device located on the MAC sub-PCB) inside your receiver is suffixed '30' or more. If your existing receiver has an earlier MAC chip, it is probably worth paying the extra £20.00 in order to get a new receiver board that has been 'vetted' by Trac, and hence a fully-specified receiver. In addition, you also get a supply of spare parts (tuner/demodulators and UHF modulators tend to suffer the most when there's a nearby lightning strike...). On the other hand, if you're buying a receiver specifically for the purpose of modifying it, you now know where to check!

Mode select, the fourth sub-menu, sets the receiver up to receive D2MAC, DMAC (two modes – one for each sub-frame) and PAL. The DMAC modes are primarily intended for use with the

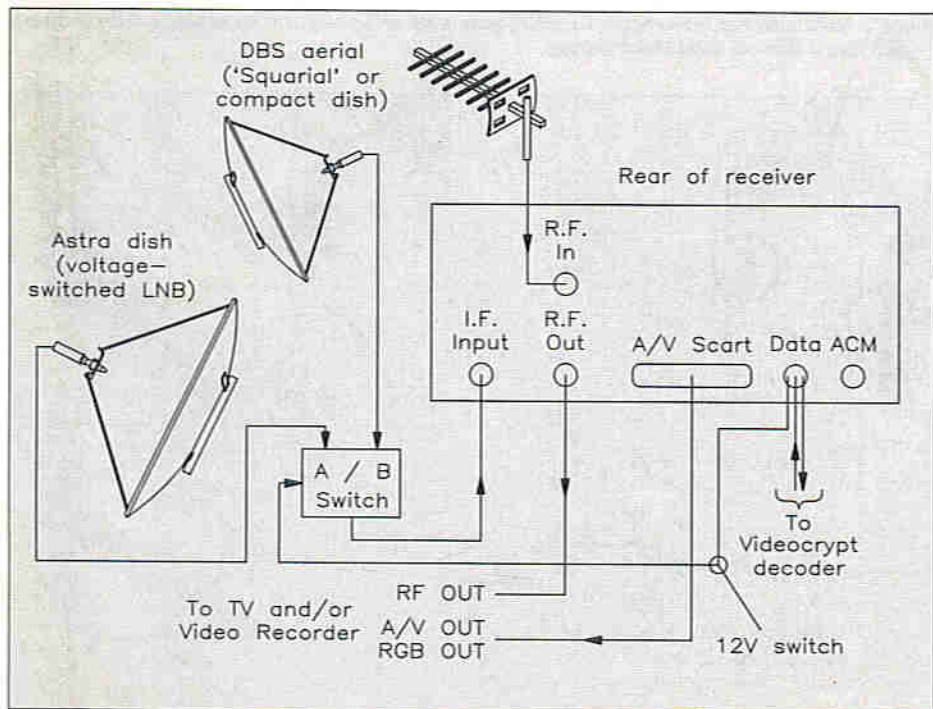


Figure 1. Typical set up using Ferguson SRB1 BSB receiver fitted with Trac upgrade.