Teldis SCR Multiswitch Range Type no.s

SCR523(T), SCR543(T), SCR563(T) and SCR583(T)

An introduction to the set up procedure when installing the SCR500 series multiswitches with SCR enabled Sky boxes. The guide below is divided into four parts. The first section describes in detail the specification and switch performance. The second section describes a comprehensive bench test method which offers a real time monitoring of functions throughout the set up process and is recommended as a first time install. The third section is a suggestion for engineers 'in home' set up and uses the Sky box to assist in the process. It is quicker and simplified. Lastly a FAQ type section on avoiding problems and fault finding. This also contains useful extra information.

Most important is the need to read this document prior to your first set up. It is not difficult to enable the switch but it is easy to 'hang up' the box if it is not addressed carefully.

Teldis SCR multiswitch specification

Please read the following explanation in conjunction with the multiswitch label. The Teldis SCR500 series is a universal single line multiswitch. Each and every user port will, when connected to the appropriate receiver, automatically configure itself to work in one of three different ways. There are no user adjustable controls necessary on the device.

Firstly, in legacy mode as a conventional multiswitch reacting to volts and tone.
Secondly, in Sky box SCR mode when so selected on the service menu.
Thirdly, with non Sky receivers using CSS mode or European norm.

The SCR500 series benefits from several innovative and installer friendly features.

The device does not need to be powered for the switch to work, however, we do recommend that on all but the smallest systems a simple PSU is connected to the power port for the purposes of powering the LNB. All the internal circuitry within the switch is powered by the box (es) connected to it. There is no PSU or active splitter to be fitted within the dwelling to power the user port as the switch power consumption is low (circa 85mA). A typical receiver will have no difficulty feeding it.

The RF performance is noteworthy. Any incoming satellite signal strength within the range of 60-90dBuV will result in a level at the user ports of 82dBuV. This is achieved by on-board ALC controlled line amplifiers. This means it is possible to series connect several switches together, dependant upon the original input signal strength and the minimum required at the last.

The terrestrial line into the switch is passive and results in a loss to the ports of around 20-23dB. This may result in the need for terrestrial amplification if none is present or if existent active multiswitches are being replaced.

Teldis SCR multiswitch first time install/bench test

Prior to SCR configuration it is recommended to set up the box in legacy mode first. This will identify a conventional problem if one exists on the box, cable, socket or connector much more easily than if we are in an SCR set up mode. Once this is confirmed and our chain is viable then we can proceed.

It is recommended to use a 3 port diode protected satellite splitter (a 4-port would do) in the receiver line between the receiver and the triple socket with two of the ports connected to the box and the third port connected to a spectrum analyzer with the ***volts turned off.*** Set your analyzer to display 1382MHz as a centre frequency and allow 1484MHz centre frequency to be displayed to the right. Make sure that all the connections are secure as interrupting or dropping the signal to the box during set-up ***will*** 'fail' the acquisition. We shall use the analyzer to monitor the SCR channels as they appear and time the various stages during the process.

To access set-up (with the box in standby) select the service menu via remote control.
Select settings and access signal option, (activate engineering menu 0-1-select).
Navigate to set-up and select LNB type (default setting is standard).
Change LNB type to SCR band with navigation keys.
Set Channel 1 to SCR band 11 and Channel 2 to SCR band 14
Save the settings with the green button
The set-up process takes between 90 and 120 seconds to complete depending on the STB performance. Please wait until the set-up has finalized before further testing. Interruption during this period can cause the set-up to fail.
If you time the process the set-up will generally follow this pattern.
View the selected band on the analyzer and note the following

- **50 seconds** during this time various random signals may be seen across the selected part of the band then a beacon will appear at 1382MHz. SCR Ch.11.
- **75 seconds** the beacon will now be replaced by a multiplex with lower side band shoulders.
- **90 seconds** the multiplex will disappear and a second beacon will appear at 1484MHz. SCR Ch. 14.
- **105 seconds** the beacon will now be replaced by a multiplex as before.
- **120 seconds** now turn on the box. The SCR Ch. 11 multiplex will return and now two multiplexes will be seen and the process is complete.

If you check the quality and signal strength bars you will note the receiver has accepted the incoming multiplexes on inputs 1 and 2. If no change has taken place by this time then perform a 'power down' restart, await set up and check as before.

If the input cable(s) are disconnected from the box at any time after set-up, the box will need to be re-set as the switch will always revert to legacy mode. If the box needs to be moved or the cables need to be disconnected, then you must turn the box off first. The box will automatically reacquire the SCR mode when it is powered up again. Power failures are handled in the same way taking up to 120 seconds.

Teldis SCR multiswitch ‘quick’ in-home installation

Prior to SCR configuration it is recommended to set up the box in legacy mode first. This will identify a conventional problem if one exists on the box, cable, socket or connector much more easily than if we are in an SCR set up mode. Once this is confirmed and our chain is viable then we can proceed.

It is recommended to use a 2 port diode protected satellite splitter* in the receiver line between the receiver and the triple socket with two ports connected to the receiver. Make sure that all the connections are secure as interrupting or dropping the signal to the box during set-up will ‘fail’ the acquisition.

To access set-up select the service menu via remote control.
Select settings and access signal option (activate engineering menu 0-1-select.
Navigate to set-up and select LNB type (default setting is standard).
Change LNB type to SCR band with navigation keys.
Set Channel 1 to SCR band 11 and Channel 2 to SCR band 14.
Save the settings with the green button.

The set-up process takes between 90 and 120 seconds to complete depending on the STB performance. Please wait until the set-up has finalized before further testing. Interruption during this period can cause the set-up to fail.

If you check the quality and signal strength bars you will note the receiver has accepted the incoming multiplexes on inputs 1 and 2.

* If you fit a three port splitter you will retain a means to test the incoming signals ***without*** disconnecting the cables.

Questions and Answers

Q: Will the SCR multiswitch unconditionally work with all SCR selectable Sky Boxes?

A: Unfortunately not. **A list of compliant boxes is being prepared.** The general rule of thumb is that the newest Amstrad HD boxes, (those manufactured during the course of the last year or so) are compliant. Those boxes manufactured earlier and back to the HD launch will not necessarily be compliant. Some of the last SD boxes manufactured are also compliant.

Q: Can I replace the multiswitches on an existing single feed IRS without having to gain access to the dwellings first?

A: Theoretically yes. Because the SCR500 series is a triple standard switch it will automatically assume the legacy standard (volts and tone) if it does not detect DiSEqC SCR or CSS control signal. You could visit the dwellings at your leisure and perform a set-up.

Q: When and how will 'Freesat' introduce a single line box and which standard will they adopt?

A: We don't know. But we do know that if another service provider decides to introduce such a box that either the Sky proprietary SCR or European norm CSS is supported and useable in the SCR500 series.

Q: What happens in the event of a power cut?

A: Whichever of the three modes of operation (legacy, SCR, CSS) is in use at the time, the box will automatically reacquire the service. Be aware that a full set-up procedure initiates during the restart so120 seconds of quiet time is required by the box in SCR mode. Less if CSS is being used and less again for legacy.

Q: Can I use any installer meter or spectrum analyzer to monitor the SCR multiplexes?

A: Seemingly so, providing the analyzer is able to scan and lock the generated frequencies directly. Remember that the two multiplexes detected are chosen and controlled by the box. The analyzer performs a monitoring function only with volts off or blocked. You will be able to select and check all the services contained within the multiplex of the channel selected.