

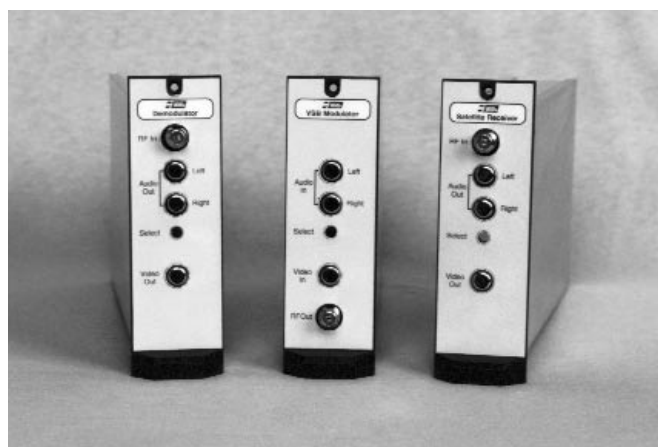
TELESAT HEAD END SYSTEM

Telesat Head End System

Telesat Head End System allows many combinations of signal source to be processed and distributed. Signals from Satellite, Terrestrial VHF/UHF, VCR, DVD, CCTV cameras all may be fed into the Head End assembly and processed to channels suitable for distribution. The 3U housing incorporates an efficient switch mode Power Supply/Controller module and Back Plane. The Back Plane Bus supplies power and control signals to each of the signal processor modules. The Power Supply/Controller Module features a keyboard and back lit LCD to provide on site configuration of the system. Each processor is fully programmable on site from the control module. Modules incorporate non-volatile configuration memory and 40 year programme retention. Mains Power interrupts will not affect the settings. As the demand for larger systems and the variety of input sources continues to grow and alter, so the Telesat System will keep pace with these demands by the development and addition of further Signal Processing modules to the range.

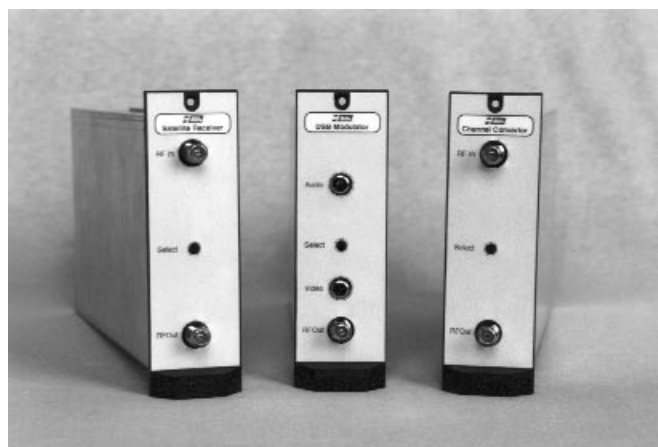
Features

- Comprehensive range of frequency agile modules
- Fully programmable to channel on site
- Adjacent Channel capability
- Switch Mode Power Supply
- 3U housing designed to fit standard 19" rack
- Up to 8 modules and 1 Power Supply fit into a single 3U housing
- Security PIN code to prevent unauthorized access



Signal Processing Modules

The range of modules meets most needs in a SMATV/MATV/CATV Head End installation. Two ranges of modules are available: One range being Adjacent Channel capable. The other range, provides a lower cost solution where Adjacent Channel capability is not required. The Modules in both ranges are identical in size, fit into the same rack housing and are driven and programmed by the same power Supply/Controller. All modules may be programmed on site for both input and output signals, as well as signal levels. Module size: 132mm x 41mm x 235mm.



MATV Systems

TELESAT HEAD END SYSTEM

Modules for Adjacent Channel Systems

Modulator, Vestigial Sideband FC658502

Converts Audio/Video Input to Broadband RF output to allow adjacent channel operation with a range of extra features. Input A/V, output RF.

- Video AGC switchable
- Black level generator
- Pre distorted group delay
- ID Tone locked to Sync
- FM Subcarrier locked to horizontal scan
- Video input 1.0Vp-p@75Ω, audio input 0.775Vrms@47KΩ and RCA input connector.
- ±10KHz (25°C) after warm up carrier accuracy, 1MHz steps frequency adjustment, -60dBc (40MHz - 2GHz) spurious output level, -60dBc (5MHz bandwidth) carrier/noise in channel and -60dBc (5MHz bandwidth) carrier/noise broadband floor.
- Output frequency range 45 - 855MHz in 1MHz increments, 75Ω impedance, 94dBμV level, -14dB in 2dB steps level adjustment, PAL B/G standard, PAL D/K available to order, mono, stereo, dual stereo, 15dBmax output return loss and F Type female connector.



Modules for Non-Adjacent Channel Systems

Satellite Receiver

- 145 - 250MHz FC658523**
- 250 - 450MHz FC658524**
- 470 - 860MHz FC658525**

Accepts analogue satellite IF input, either C or Ku Band and converts to VHF or UHF output dependant upon the model selected. Input RF, output RF.

- Input frequency range 950 - 2050MHz, 75Ω impedance, 44 - 79dBμV signal level, 12dB max noise figure and F Type female connector.
- Video processor deviation adjustment low 13.5pp, high 25pp, PAL de-emphasis and positive/negative switchable polarity.
- 280, 450 KHz switchable IF audio bandwidth and 50μs/J17 switchable de-emphasis.
- Output impedance 75Ω, 94dBμV output level, -15dB in 1.5dB steps level adjustment, PAL B/G standard, PAL D/K available to order, mono audio, 12dB max return loss and F Type female connector.



Modulator, Double Sideband

- 145 - 250MHz FC658517**
- 250 - 450MHz FC658518**
- 470 - 860MHz FC658519**

Accepts audio video input from sources such as VCR's, DVD's, CCTV cameras, and with the use of a video banking generator, audio only sources from CD and cassette players and converts to VHF or UHF output dependant upto the model selected. Input A/V, output RF.

- Video input 1.0p-p@75Ω, 0.775Vrms@47KΩ and RCA connector.
- Output impedance 75Ω, 94dBμV output level, -15dB in 1.5dB steps level adjustment, PAL B/G standard, mono audio, 12dB max return loss and F Type female connector.



Converter, Channel to Channel

- 145 - 250MHz FC658520**
- 250 - 450MHz FC658521**
- 470 - 860MHz FC658522**

Accepts input of any VHF/UHF channel, and converts to VHF or UHF. Output dependant upon the model selected. Input RF, output RF.

- Input frequency range 45 - 860MHz, 75Ω impedance, 50dBμV min signal level, PAL B/G standard, PAL D/K available to order and F Type female connector.
- Output impedance 75Ω, 94dBμV output level, -15dB in 1.5dB steps level adjustment, PAL B/G standard, PAL D/K available to order, mono, stereo, dual audio, 12dB max return loss and F Type female connector.



TELESAT HEAD END SYSTEM

Power Supply/Controller

Power Supply/ Controller Module FC658501

This unit, as well as supplying power to each of up to 8 modules allows the programming and re-tuning of the modules on site. Programming is effected by the key pad on the Controller. A 2 x 16 character LCD with brightness and contrast control displays the easy to follow menu for each module. Power and programming commands are supplied to each module via the Back Plane Bus within the Rack Housing. Mains supply to the power supply is via an EMI filtered DIN socket.

Size: 132mm x 102mm x 257mm.

- Power supply input 176 to 250 VAC and 45 to 440Hz, 5VDC@1A, 12VDC@8A and 30VDC@0.1A output, $\pm 0.4\%$ max (198 to 250V) line regulator, no min load, $\pm 0.2\%$ load regulator, 30mVp-p max (10Hz - 300KHz)@12V<5mVp-p@5&30V, 80% min efficiency, protection over voltage on 5V, short circuit on all outputs, overload on all outputs, 1.6kV AC rms primary/secondary isolation and VDE087 electromagnetic compatibility.
- 20kByte controller programme space, LED backlit LCD display, 2 x 16 alphanumeric characters and 1²C system bus protocol.

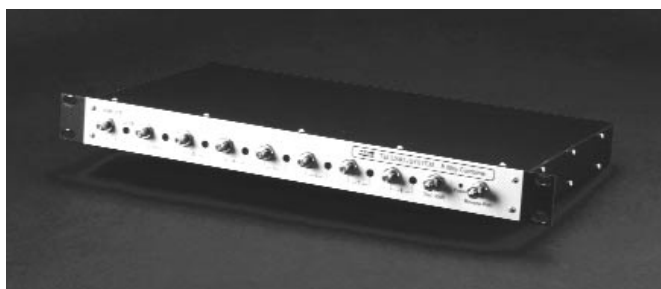


8 Way Combiner

8 Way Combiner FC658505

Combines outputs from up to 8 signal processor modules and provides amplification to the combined output signal.

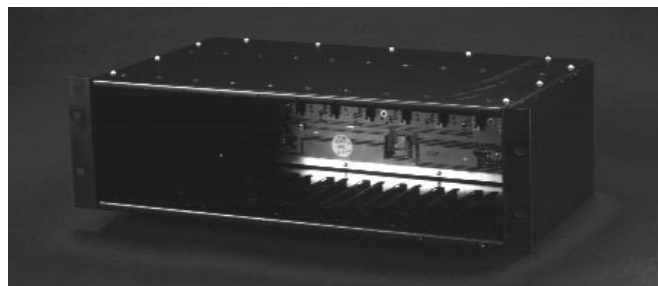
- Frequency range 40 to 860MHz
- Individual input attenuation to allow channel equalization
- Passes return path (5 - 30MHz) signals
- Output up to 104dB μ V@1MHz - 60dBc per channel
- Noise figure typ. 12dB
- 1U high 19" rack mounting



Rack Housing

Rack Housing FC658515

3U rack housing fitted with back plane bus. Houses 1 power supply/controller module plus up to 8 signal processing modules.



Module Blank Panel

Module Blank Panel FC658508

To cover any unused signal processing module slot in the rack housing where less than 8 modules are fitted.