

The MRG ATP 420 Teletext Inserter

The ATP420 is a revolutionary new teletext inserter combining the speed and accessibility of network connection with the reliability traditionally associated with a product from MRG systems. The ATP420 combines a full broadcast quality inserter, page store and network interface into a 1U box consuming less than 12 Watts. Furthermore it can store up to 10,000 pages in battery-backed memory ensuring that it will restart transmission within a few seconds of power being applied.



Main Features

- Highly efficient IPP output
- Battery-backed storage for 10,000 pages
- Designed to work as master/standby pair.
- Runs over TCP/IP using an efficient packet protocol.
- Capable of inserting on 17 lines on odd fields and 18 lines on the even field.
- Full broadcast quality video path.
- Full EMC approval.
- Compact 1U rack-mounting unit.
- Ultra-reliable single board construction with no disk or fan.
- Separate output provided for monitoring purposes.

Network Protocol

A new page update protocol has been defined by MRG to take advantage of the larger packet sizes available when working over a network. Using the new protocol most page updates fit within a single packet and receives a single packet response thus minimising the response times and speeding up the transmission.

Dynamic Allocation

Using IPP the ATP420 is able to transmit efficiently and provide facilities for dynamically allocating the available VBI bandwidth.

Reliability

The ATP420 is a 1U rack-mounting unit with all of the main functions contained on a single circuit board. It contains no fan or disk and dissipates less than 10W. No special measures are therefore needed to cool the unit or provide it with ventilation.

The unit has a bypass relay which operates to connect the video input directly to the output should the power to the unit fail.

A battery within the unit ensures that the page data and operating parameters are retained for up to 72 hours without power, thus ensuring that the unit can restart transmission as soon as power is restored.

Master / Standby Operation

For complete peace of mind when transmitting a full teletext service the ATP420 has been designed to operate with a second unit and an ATP920 service selector to provide an automatic backup for a non-stop transmission.

The inserter monitors a range of operating conditions to provide a control signal to the ATP920. It even contains a teletext decoder to monitor the final output. If any fault occurs the ATP920 will switch to the standby unit.

A serial connection between the two units is used to ensure that the database of the off-air unit is kept up to date by the on-air unit.



Technical Specification

Teletext System	World System Teletext, 625 line EBU SPB 492, CCIR Teletext System B
Video in, Video Out, Monitor Out	1Volt Composite 75W terminated BNC connectors
Text Input	1Volt Composite BNC loop through - unterminated
Linear Distortion	2T pulse and bar ratio < $\pm 0.5\%$ Tilt < 0.25%K Chroma/Luma Gain inequality < 1% Chroma/Luma delay inequality < 10ns
Non-Linear Distortion	Differential Phase < 1° Differential Gain < 1%
Return Loss	> 36dB
Signal/Noise Ratio	> 65dB rms (0.2 - 5.5 MHz)
Amplitude	462 mV adjustable $\pm 20\%$
Filter	100% roll off cosine
Threshold	150mV below black level
Sync to Text delay	12 μ S, front panel adjustable