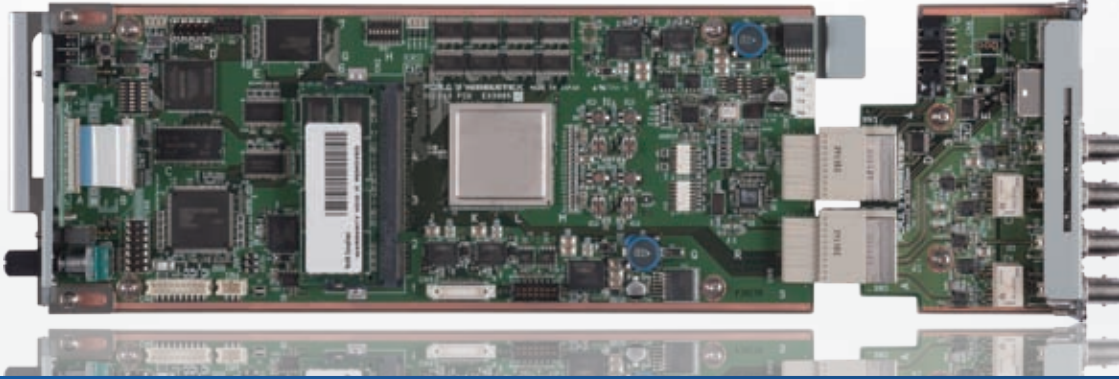




# Shockless

## Increasing TS circuit reliability



## UFM-80TSCS

### TS Changeover Switcher (2 inputs)

**This modular type TS changeover switcher that can be mounted in a UFM frame constantly monitors TS signals on a redundant circuit, and switches the output swiftly to the other line when an error occurs without disrupting output to achieve automatic seamless switching.**

This TS automatic seamless switcher constantly monitors two TS signals output from the same encoder on a redundant circuit for errors, and switches the output seamlessly to the other line when an error occurs. To prevent an error on the transmission path, this switcher further increases the reliability of duplex transmission.

**Mounting multiple switchers into a single unit greatly reduces the installation space.**

Downsizing can be achieved by equipping multiple modules to a single UFM frame. Up to five modules can be equipped to the UF-106B, and up to nine modules to the UF-112. In addition, different module types can also be simultaneously equipped.

### Features

#### Seamless switching function between the outputs of the same encoder

Seamless switching can be performed between the dual output distribution of the same encoder using a single module. This supports completely seamless switching without disrupting the video or audio (single TS module configuration).

#### Auto and manual switching

When an error occurs in the signal, the UFM-80TSCS automatically switches to the other line. Manual switching and auto/manual assignment of each line are also possible. For example, the following assignment can be selected: automatic switching from the current line to the reserve line, and manual switching from the reserve line to the current line.

#### Delay adjustment function

The delay difference between different lines is absorbed quickly and both phase inputs are automatically aligned to achieve seamless switching that does not disrupt the output. The delay adjustment range is  $\pm 500$  ms.

#### GUI

The status of each signal input can be monitored and unit control settings can be made using the dedicated GUI. A log of error contents and switching events are saved together with time information in the computer as a CSV file.

#### Error detection

In addition to TR101 290, the UFM-80TSCS monitors the error content occurring in the transmission path, and performs error detection with an emphasis on achieving seamless switching. This helps protect transmission signals from SYNC errors, CC errors, packet loss, NULL only, and other errors that can fatally damage signal quality. Detection of each error type can be set to on or off. The PID error detection threshold can be set to an arbitrary time (1 ms steps). Up to four sets of multi program signals are supported.

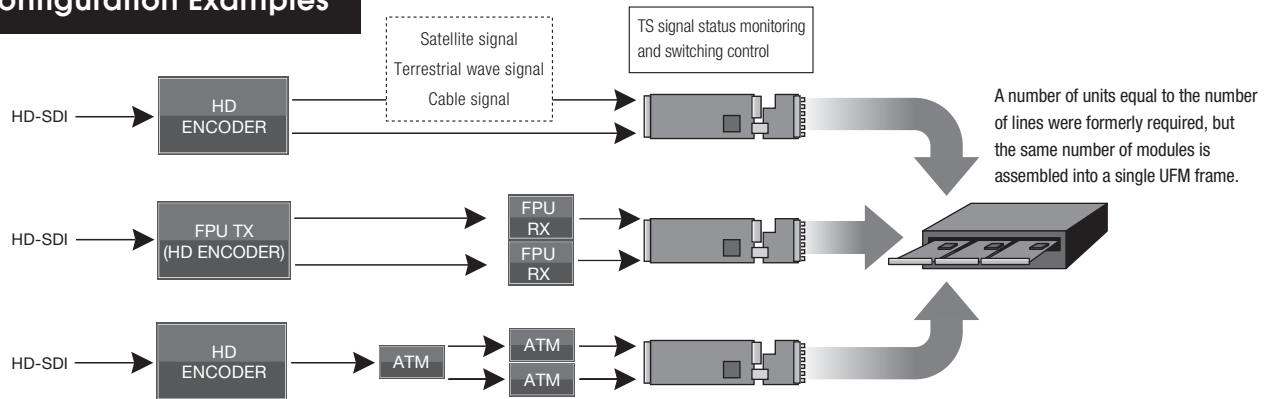
#### Bypass-through function

When the power is off, the bypass-through function operates so that the INPUT1 input signal is output to OUTPUT1.

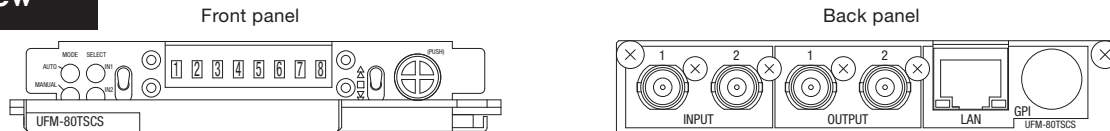
#### External control functions

Each module is equipped with a GPI interface (7-pin, 36 items) and Ethernet, enabling a wide range of remote monitoring and control according to the operation format. The dedicated GUI can be used to make settings and graphically display error monitoring contents via Ethernet. An event log viewer, automatic CSV file generation, and other functions are also provided to facilitate signal management requiring historical condition data.

## System Configuration Examples



## External View



## Specifications

Input signal	Signal Standard	DVB-ASI	
	Format	Data Packet, Burst, 188 bytes/204 bytes	
	Effective bit rate	1 Mbps to 160 Mbps	
Output signal	Connector	75Ω unbalanced BNC x 2	
	Signal standard	DVB-ASI (EN50083-9) compliant	
	Format	Data Packet. Packet size can be set to INPUT/188 fixed/204 fixed. (Burst input is converted to Packet output.)	
Control system	Effective bit rate	1Mbps to 160 Mbps	
	Connector	75Ω unbalanced BNC x 2 (Selected input signal is bypassed (high-frequency relay) to OUTPUT1 when the power is off.)	
	Delay adjustment range	Input signal phase difference within ±500 ms	
External control	System delay	Standard 50 ms (2 ms to 1200 ms according to set offset value)	
	Error detection item (ON/OFF settable)	Packet loss (including illegal code error), SYNC byte/loss error, Transport error indicator, CC error (1 to 4 PMT series only), PID error (packet arrival error) (1 to 4 PMT series only), NULL only error	
	CC error details (ON/OFF settable)	Automatically detected PID: PAT_CC, PMT_CC, VIDEO_CC, AUDIO1_CC, AUDIO2_CC, AAC AUDIO1_CC, AAC AUDIO2_CC, DATA1_CC, DATA2_CC USER_PID: USER1_PID_CC, USER2_PID_CC, USER3_PID_CC	
	CONTROL GPI	Programmable assignment from GUI • Over 36 different parameters including IN/OUT settings can be set for each of 7 ports, such as input selection monitoring and control, signal status monitoring for each input, operating mode control, output signal status monitoring, etc. • Input: Photo coupler (7 mA or higher control current 50 ms or longer short-circuit protection time) • Output: Open collector (40 V max voltage, 100 mA max current)	
Other	ETHERNET	10BASE-T/100BASE-TX • Remote control by dedicated GUI: Signal status monitoring / Main unit setting / Event log viewer / Log CSV file auto-save function, etc. • SNMP support: Main unit control and notification of errors and event traps for up to four different IP addresses • For maintenance: Firmware updates	
		Power / Consumption	+24 V DC supplied from the UFM frame / 20 W
		Dimensions / Weight	Front: 106 (W) x 293.2 (D) (mm) Rear: 108.5 (W) x 96.0 (D) x 20 (H) (mm) / Approx. 1 kg
		Temperature / Humidity	0 to 40°C / 85% or less (no condensation)

### UF-106B Universal Frame (6 Modules)

- Capable of holding up to 6 modules (boards) according to the system.
- Capable of holding UF-106BPS redundant power supply (optional). (Max 4 modules with a redundant power supply)
- Permits hot swapping of power supply and modules.
- All modules can be replaced through the front side.
- Alarm detections and status indications are displayed on the front-side LED.
- Includes loop-through connector as Genlock input. Genlock input signal can be distributed to all modules.
- Control module is prepared for remote control (optional).



### UF-112 Universal Frame (12 Modules)

- Capable of holding up to 12 modules (boards) according to the system.
- Capable of holding UF-112PS redundant power supply (optional).
- Permits hot swapping of power supply and modules.
- All modules can be replaced through the front side.
- Alarm detections and status indications are displayed on the front-side LED.
- Includes loop-through connector as Genlock input. Genlock input signal can be distributed to all modules.
- Control module is prepared for remote control (optional).



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