

# TXM Transmitter Monitors

**Alice**  
BROADCAST SOLUTIONS™



## Technical Specification

### Connections:

#### Main and standby inputs:

#### Input impedance:

balanced, Neutrik female XLR  
dependent on output load  
(direct relay switching)

#### RF sample input:

#### Output:

#### Output impedance:

BNC female socket 50 ohms  
balanced, Neutrik male XLR  
dependant upon source  
(direct relay switching)

#### Alarm outputs:

15-way male D-type socket

### Signal Requirements and Timing:

#### Incoming line level:

#### Incoming audio-fail threshold:

#### Incoming audio-fail alarm delay:

-20dBu to +24dBu (+8dBu typical)  
-28dBu to +24dBu (factory-set to -20dBu)  
45 seconds of silence allowed before  
alarm raised

#### Incoming audio alarm-clear delay:

5 seconds of valid audio required  
before alarm deactivated.

#### RF sample level:

#### Input impedance of audio detector:

#### Demodulated audio-fail threshold:

1.5V to 5V rms  
>20k ohms  
7% to 80% average modulation  
(factory-set to 30%)

#### Demodulated audio-fail alarm delay:

45 seconds of 0% modulation allowed  
before alarm activated.

#### Demodulated audio alarm-clear delay:

5 seconds of valid audio required  
before alarm deactivated.

#### RF carrier alarm threshold:

-20dBm to +3dBm (factory-set to -17dBm)

### Available Alarm Outputs:

#### Incoming audio fail

#### Demodulated audio fail

#### RF carrier fail

#### Standby source start-up

#### Drive capability:

(continuous)  
(continuous)  
(continuous)  
(selectable pulse or continuous)  
each alarm output is an uncommitted  
opto-isolator output transistor rated at  
30V, 10mA. Both +12V and 0V are  
available at the output connector  
allowing pull-up, pull-down or other  
configuration.

#### Power requirements:

230 V AC 50Hz, 10VA  
(115 V available to order) IEC Male

#### Dimensions:

1U 19" rack mounting,  
overall depth 165mm

## TXM Range – Single And Dual Transmitter Monitors

The Alice TXM-1 and TXM-2 are mains-powered, 1U rack-mounting, single and dual AM transmitter monitors. They provide a one-box interface for state-of-the-art telemetry systems (such as the Gentner GSX300) at unmanned transmitter sites and include automatic backup source switching, allowing uninterrupted programming in the event of an Studio Transmitter Link Failure. (STL)

Switching between the two balanced inputs, main and standby, is achieved by a high-quality relay, keeping the audio path balanced throughout and making audio degradation undetectable. The main input is constantly monitored for 'valid audio', selective filtering enhances rejection of out-of-band frequencies, hum and noise. For extra flexibility the threshold level is user-programmable at the front panel. In the event of a sustained STL failure, the TXM will automatically switch the transmitter feed to the standby source. At the same time, a trigger signal (selectable to be either pulsed or continuous) is made available. This may be used to initialise a standby source, be it an auto-dialling ISDN CODEC or an on-site CD player.

When the TXM is satisfied that the main feed has been permanently restored, glitches and clicks are ignored, the source will be switched back. An alarm output keeps the telemetry informed at all times of the incoming line status.

Setting the TXM apart from a simple silence sensor are its RF monitoring facilities. A 2V rms RF sample (available directly from many transmitters) is fed to the TXM. An internal demodulator extracts both the RF carrier level and demodulated audio. Hence transmitter output power and a second 'valid audio' detector is driven. Both have user-programmable alarm thresholds.

When these alarms are transmitted via telemetry, it becomes a simple task to deduce the source of any problems, be it failure of the incoming line, the audio processing equipment or the transmitter itself.