

XAP 400 and TH2 Telephone line/switch operating parameters for Europe

Introduction

This document outlines the parameters of the analog line that are required for correct operation of a XAP product in the European country code setting. Parameters that are outside of the optimal performance range may or may not yield satisfactory operational results depending upon the environment and how the device is used.

Description

The table below outlines the limits within which the device will operate and a range where optimal performance is achieved for the telco line parameters to work with the XAP 400 and XAP TH2. All data assumes 48V.

AC Characteristics	Operating limits		Optimal performance	
	Min	Max	Min	Max
Loop Impedance	250 Ohms	3000 Ohms	Complex Ref impedance	
Loop Loss		25 dB		10 dB
Receive signal level		-2 dBu	-10 dBu–20 dBu average speech level	
Maximum transmit level ¹		-2 dBu		
Longitudinal balance ²			>50 dB	
Crosstalk ²			>50 dB	
Distortion ²			>50 dB	
Noise ²		25 dBmC		15 dBmC
Frequency response			200 Hz–3.5 kHz +/- 3 dB	
Echo delay ³	0 mS	20 mS		5 mS
DC Characteristics	Operating limits		Optimal performance	
	Min	Max	Min	Max
DC voltage ⁴	20 V	60 V		
Polarity	Independent			
On hook current	7 uA			
Off hook current (loop current)	15 mA	55 mA	20 mA	50 mA
Signaling	Operating limits		Optimal performance	
	Min	Max	Min	Max
Ring voltage ⁵	24 Vrms	120 Vrms		
Ring frequency ⁵	15 Hz	80 Hz		
Dial tone detection window ⁶	320 Hz – 450 Hz			
Hook Flash detection at switch ⁷	10 mS less than selection on			
Minimum DTMF detection duration		140 mS		
DTMF detection frequency tolerance	+/- 1.5% of nominal frequency values			

Physical characteristics of the RJ-11 connector

Pin 1	Not Used
Pin 2	A-Lead
Pin 3	Tip
Pin 4	Ring
Pin 5	A-Lead
Pin 6	Not Used

Footnote:

1. Transmit level is measured at RJ-11 interface, 48 VDC supply with 600 Ohm line impedance.
2. Specification applies across in band frequencies.
3. Assumes 6 dB of echo attenuation.
4. Minimum voltage requirement is measured at RJ-11 connector while unit is on hook. Minimum voltage required at the switch will vary with loop length.
5. Ring requirements are required in order for the unit to indicate a ring.
6. The frequency of all dial tone signals must be contained within the limits in order for dial tone detection to operate.
7. Hook flash tolerance applies to the current user selection.

All specifications are subject to change without notice.