HARRIS

5.8 GHz NA or CEPT digital hierarchy

Aurora™ 5800

Spread Spectrum

point-to-point

digital radio

Aurora™ is a family of point-to-point digital microwave radios employing spread spectrum technology. These radios offer deployment of 1xE1/T1 to 2xE1/T1 wireless service as well as Remote LAN Bridging (10Base-T) with a typical distance up to 50 km (30 mi), line-of-sight. Aurora™ operates in the 5.8 GHz ISM band and in most cases avoids costly and time consuming frequency coordination and licensing. Aurora™ provides ideal wireless interconnection for private wireless access, Internet service access, LAN/WAN Remote Bridging, cellular, and PCS/PCN systems.

An optional 10Base-T connection (replaces a telephony interface) provides a level 2 LAN Bridge for networks of up to10,000 MAC addresses. Without operator input Aurora™ learns to transport only packets that are addressed between connected LANs and the HDLC protocol automatically retransmits corrupted packets to maximize data integrity.

The radio reduces installation and maintenance costs with a compact, lightweight and fully indoor unit for rack/table-top or basestation integration. The built-in CIT (Craft Interface Tool) allows Aurora™ software to adjust the transmitter power output, the spread coding sequence, or the radio's center frequency to optimize the path.

Additionally, Aurora™ 5800 features a voice/data orderwire and a network management systems channel is compatible with Harris FarScan™ Element Manager or SNMP Manager.

The Aurora™ family of spread spectrum radios enables your business to gain a competitive edge by deploying radios rapidly, reliably and cost-effectively. Aurora™ offers an attractive business payback superior to leased lines or other similar radios.

next level solutions

Aurora™ 5800 5.8 GHz E1/T1 Spread Spectrum Digital Radio

General Characteristics

Frequency Range: 5725 - 5850 MHz

Digital Capacity:
1x E1 or 2xE1 (E1: 2.048 Mbit/s) 1xT1 or 2xT1 (T1: 1.544 Mbit/s)

Maximum Range: Up to 50 km (30 mi.) line-of-sight

RF Channel Bandwidth: 18 MHz, 1xE1/T1 30 MHz, 2xE1/2T1

Modulation: DQPSK

Coding: Direct Sequence, software selectable codes

FCC ID: BCK9GKAUR5801T1-1
BCK9GKAUR5802T1-1

Frequency Stability: 0.0006%

System Characteristics

System Gain: *Typical, BER £ 1x10 $^{-3}$*
1xE1/T1; 109 dB 2xE1/T1; 107 dB

Frequency Plan:

1xE1/T1;	Pair A	5,735 and 5,800 MHz
	Pair B	5,755 and 5,820 MHz
	Pair C	5,775 and 5,840 MHz
2xT1/E1;	Pair A	5,741 and 5,803 MHz
	Pair B	5,772 and 5,834 MHz

Transmission Delay: Radio Only; 50 us, max.

Acquisition Time: ≤ 50 ms

Dispersive Fade Margin: *Typical, BER £ 1x10 $^{-3}$* Better than 60 dB

Transmitter Characteristics

Power Output: Software Adjustable +18.5 dBm,max (+10 dBm, min.)

Receiver Characteristics

Noise Figure: 7 dB typical at antenna port

Maximum Receive Level: -20 dBm error free, -10 dBm no damage

Threshold:

1E1/T1:Outage point;	(BER≤ 1x10^{3})	-89 dBm	(-90 dBm, typical)
1E1/T1:Operating point;	(BER≤ 1x10^{-6})	-87 dBm	(-88 dBm, typical)
2E1/T1:Outage point;	(BER≤ 1x10^{3})	-87 dBm	(-88 dBm, typical)
2E1/T1:Operating point;	(BER≤ 1x10^{-6})	-85 dBm	(-86 dBm, typical)

Optional Remote LAN Bridge: MAC address buffer = 10,000

Digital Data Interface

Digital Interface:
E1; CEPT-1 Meets ITU-T G.703, G.823
T1; DSX-1 Meets ITU-T G.703, G.824, AT&T Pub 62411, Bellcore TR-TSY-000499

Connectors:
E1; Unbalanced, 75 ohms, BNC Balanced, 120 ohms, RJ-48C
T1; Balanced, 100 ohms, RJ-48C
Remote LAN Bridge; RJ45 (10Base-T) optional

Line Code:
E1; HDB3 or AMI, selectable T1; AMI or B8ZS, selectable

Controls, Indicators & Diagnostics

CIT Port: RS-232 DTE, DB-9, Female (Programmability)

Voice OW Port: 2-Wire, RJ11

Asynchronous Data Port: RS-232, DB-15, Female

Front Panel LEDs:
Power Supply *(green)* XMT pwr alarm *(red)* RCV sync alarm *(red)*

Test Points: RSSI (Receiver Signal Strength Indicator), GND

Built-in Diagnostics: LOS, AIS, RCV synth lock alarm, RCV status, XMT synth lock alarm, XMT power status

Alarm Port: DE9, Male (Tx pwr, Rx sync solid-state relay alarms)

Network Management: Harris SCAN and SNMP Proxy Agent

Power & Environment

AC Power: 95 to 250 Volts, 50/60 Hz UL Approved

DC Power: ±21 to 60 Volts optional

Power Consumption: 30 Watts, max.

Temperature: Operational: 0° C to +50° C
Storage: -40° C to +70° C

Humidity: 95% non-condensing

Altitude: 4,572 m (15,000 ft.) AMSL

Size: Table-top or 480 mm (19") EIA rack mount

Height	Width	Depth
50 mm	430 mm	275 mm
1.75 inches	17 inches	10.2 inches

Weight: 3.5 kg (7.7 lbs.)

Antenna Connector: Type "N" Female

Typical Distance*

**With 0.6 m (2 ft.) directional antenna, 28.5 dBi gain*
Up to 50 km (30 mi.)

Aurora™ 5800 Spread Spectrum digital radio. AC Power. (rear view) Specify Power Requirements i.e.-24 VDC, 48 VDC 110 VAC or 220 VAC

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