CELL SITE

700 MHz, 800 MHz, 900 MHz

EXTENDING CRITICAL COMMUNICATIONS

The Cell Site is a stand-alone, fully digital OpenSky® base station that provides a cost-effective solution for extending network coverage. The unit provides consistent coverage to areas that require only a single channel or are hard to reach due to difficult terrain or other geographical effects.

FEATURES

With its low power consumption, a 24-hour battery backup, and easy serviceability, the Cell Site is a powerful alternative where in-building or rural coverage is needed.

As part of the OpenSky network, the unit supports digital voice and data on the same channel.

The Cell Site is designed for outside mounting on rooftops utility poles, or anyplace coverage needs to be extended.

CHANNEL EFFICIENCY

Unlike other cell-based trunking networks, OpenSky architecture eliminates the need for a control channel. Removing the control channel requirement results in increased channel efficiency and greater channel access for mobile users.

MODULAR DESIGN

The Cell Site is composed of a controller, transceiver, high-power amplifier (HPA), duplexer, and network communications device. The controller module is a Digital Signal Processor (DSP) based channel controller that manages channel access arbitration, provides true digital pass-through for repeated voice, and serves as the communications bridge between a mobile fleet and the OpenSky network. The controller module also controls all ancillary devices while concurrently performing all baseband processing.

The transceiver module is optimized for the requirements of OpenSky's digital protocol. The transceiver links to the controller via an IQ baseband interface.

The output power of the HPA is adjustable and selected through the controller interface.

The network communications link is established through T1 circuits or a Dedicated Digital Service (DDS) landline connection. A single communications link option is selected and factory installed prior to shipment.

GENERAL SPECIFICATIONS

Dimensions (H x W x D):
21.5 x 18 x 22 in.
(55 x 46 x 56 cm)

Weight:
- Packed for shipment:
  <50 lb (22 kg)
- Unpacked:
  <40 lb (18 kg)

DC Supply Voltage:
27 VDC

AC Supply/Charger/Amp:
Harris SkyCharger

Mounting:
Pole or Wall

Operating Temperature Range:
-22 to +140°F
(-30 to +60°C)

Storage Temperature Range:
-40 to +158°F
(-40 to +70°C)

Humidity:
Maximum 95% relative humidity
@ 122°F (+50°C)

Site-to-Site Backhaul:
Option 1: T1/F1 Frame-Relay Router
Option 2: Synchronous DDS
@ 56 kbps

About Harris Corporation

Harris Corporation is a leading technology innovator that creates mission-critical solutions that connect, inform and protect the world. The company's advanced technology provides information and insight to customers operating in demanding environments from ocean to orbit and everywhere in between. Harris has approximately $8 billion in annual revenue and supports customers in 125 countries through four customer-focused business segments: Communication Systems, Space and Intelligence Systems, Electronic Systems, and Critical Networks.

TRANSMITTER

	700	800	900
Frequency Range (MHz):	769-775	851-869	935-940
Channel Step Size (kHz):	6.25	6.25	6.25
RF Channel Bandwidth (kHz):	25/12.5	25/12.5	12.5
Frequency Stability (ppm):	0.1	0.1	0.1
RF Output Impedance (ohm):	50	50	50
Power Output (Typical) (W)			
Duplex Antenna Option:	5 to 25	5 to 25	5 to 25
Non-duplex Antenna Option:	5 to 31.5	5 to 31.5	5 to 31.5
RF Transmit-to-Receive Frequency Offset (MHz):	30	45	39
Duty Cycle Rating:	Continuous (100%)	Continuous (100%)	Continuous (100%)

RECEIVER

	700	800	900
Frequency Range (MHz):	799-805	806-824	896-901
Intermodulation Rejection (25/12.5 kHz) (dB):	75/80	75/80	80 (12.5 kHz)
Adjacent Channel Rejection (25/12.5 kHz) (dB):	70*/55	70*/55	55 (12.5 kHz)
Frequency Stability (ppm):	0.1	0.1	0.1
Image Impedance (ohm):	50	50	50
Receiver Sensitivity OpenSky Protocol (dBm for 1% BER)			
Duplex Option:	-111	-111	NA
Non-duplex Option:	-112	-112	NA
Narrowband OpenSky Trunking Protocol (dBm for 1% BER)			
Duplex Option:	-115	-115	-115
Non-duplex Option:	-116	-116	-116

*Analog Interferer

SITE-TO-SITE (BACKHAUL) COMMUNICATIONS

T1/FT1 Frame-Relay Router	
Protocol:	RFC 1490 encapsulation (multi-protocol over frame relay)
LMI Type:	LMI, ANSI (Annex D), CCITT (Annex A) and static
Data Throughput Rate:	64 kbps to approximately 1.5 Mbps
BSC-to-Router Communication Link	
LAN Interface:	10/100 Base-T Ethernet (10/100 Mbps)
LAN Port Connections:	RJ-45 modular jacks provided on internal side of Customer Interface Board; surge protected interface
T1 Line Connection Port:	RJ-45 modular jacks provided on internal side of Customer Interface Board; surge protected interface
Applicable FCC Rules:	Part 68
Industry Canada Cert. No.:	CS03

DDS Modem Router	
Protocol:	Synchronous Digital Data Service (DDS)
Data Throughput Rate:	56 kbps maximum
BSC-to-Router Communication Link	
LAN Interface:	10/100 Base-T Ethernet (10/100 Mbps)
LAN Port Connections:	RJ-45 modular jacks provided on internal side of Customer Interface Board; surge protected interface
Telco Line Connection Port:	RJ-45 modular jacks provided on external side of Customer Interface Board; surge protected interface
Dial Backup (DBU) Port:	RJ-45 modular jacks provided on external side of Customer Interface Board; surge protected interface
Applicable FCC Rules:	Part 68

REGULATORY DATA

Frequency Range (MHz)	Power Output (W)	FCC Type Acceptance Number	Applicable FCC Rules	Industry Canada Certification Number
769-775	31.5 (non-duplex), 25 (duplex)	BV8CS700	90	3670A-CSS700
851-869	31.5 (non-duplex), 25 (duplex)	BV8CS800	90	3670A-CSS800
935-940	31.5 (non-duplex), 25 (duplex)	BV8CS900	90	3670A-CSS900

Technical specifications are subject to change without notice. Product sales are subject to applicable U.S. export control laws.

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