

# Cell Station (CS-S7) Compact Array

THE UTSTARCOM COMPACT ARRAY CELL STATION (CS-S7) PROVIDES COST EFFECTIVE WIRELESS WIDE AREA COVERAGE IN A PERSONAL ACCESS SYSTEM (PAS) NETWORK



- **STANDARD CELL STATION EQUIPPED WITH FOUR ANTENNAS**
- **IMPROVED PERFORMANCE**
- **OMNI DIRECTIONAL TRANSMISSION**
- **HIGH CAPACITY SMART ANTENNA**
- **SOFTWARE ADJUSTABLE TRANSMISSION POWER FOR ALL MARKETS**
- **ADAPTIVE ARRAY ANTENNA (SMART ANTENNA) TECHNOLOGY**
- **SUPPORTS OUTDOOR AND INDOOR INSTALLATIONS**
- **RCR STD-28 PHS RADIO INTERFACE**
- **EXPANDED FREQUENCY SUPPORT FROM 1880MHZ TO 1920MHZ**
- **UP TO 16 CELL STATIONS COMBINED INTO ONE CELL SITE LOCATION TO SOLVE COVERAGE AND CAPACITY LIMITATIONS.**

The CS-S Compact Array is a 1 Control Channel, 7 Traffic Channel (1C7T) Cell Station that is intended for outdoor applications. This Cell Station uses the same Smart Antenna technology as the Adaptive Array to enhance its receive sensitivity while it transmits using omni directional antennas. As a result of this, the Compact Array is approximately half the size of the Adaptive Array and only needs 4 antennas instead of 8 for the Adaptive Array or the CS-M. Like the CS-S Adaptive Array and CS-M, the CS-S Compact Array may be installed in groups of 2 to provide 15 traffic channels sharing a single control channel. As different CS types have different RF performance, different types may not be mixed in the same group. The Compact Array CS operates on line voltages between 84VAC and 286VAC and supports PHS channels from 1880MHz to 1920MHz.

## COMPACT ARRAY CS APPLICATIONS

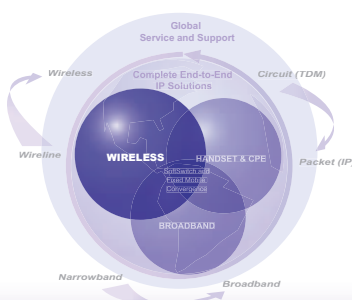
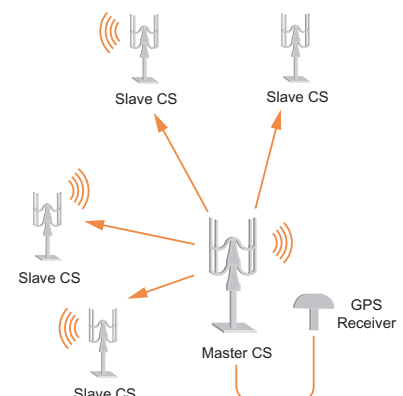
The Compact Array is ideally suited to applications where size is important. The Compact Array is the smallest 1C7T500mWCS available and it operates at full sensitivity with only 4 antennas instead of the 8 normally required for a 1C7TCS. The Compact Array is also the cost effective choice where operation over the extended PHS frequency range, from 1880MHz, is needed due to local licensing or regulation. The wide range input power supply results in maximum flexibility for applications in different countries where local AC power may be 110V or 220V.

## COMPATIBLE WITH ALL UTSTARCOM SWITCHING AND ACCESS NETWORK CONFIGURATIONS

The Compact Array CS is compatible with UTStarcom PAS Access Network systems as well as with mSwitch@/iPAS based systems. It can be used in combination with other CS types including the Adaptive Array, CS-M, and CS-A3. The Compact Array can be deployed in groups of two units, where both units share a single Control Channel and provide access to 15 simultaneous traffic channels. When using group control, only Cell Stations of the same type may be members of the same group to assure consistent RF performance across the group.

## CELL STATION SYNCHRONIZATION

The CS-S7 Adaptive Array uses air synchronization technology. The Adaptive Array synchronizes with master CSs once each day as a slave CS. The Master CS in turn synchronizes the complete network via Global Positioning System (GPS). Slave CSs synchronize with the Master CS by receiving an air synchronization signal from the Master CS as depicted in the diagram.



# Technical Specifications



Operating Frequency	1880 MHz -1920MHz
Carrier Space	300KHz
Carrier Number	132
Air Interface	Based on Research and Development Center for Radio Systems Standard (RCR STD 28 Release 3.3)
Access Mode	Multi-carrier Time Division Multiple Access - Time Division Duplex (TDMA-TDD)
Channel	1 Control 7 Traffic Channels (1C7T)
Group control	1 Control 15 Traffic Channels (1C15T)
Frame length	5ms
Modulation	Pi/4 Quadratic Phase Shift Keying (QPSK)
Transmission bit rate	384 kbit/s
Voice coding	32kbits/s Adaptive Differential Pulse Code Modulation (ADPCM) (JT-G721)
RF output power (average)	500mW (+20%, -50%)
Frequency tolerance	-2.8ppm to + 2.8ppm
Antennas	
Transmission	4 branch selective diversity
Reception	4 branch adaptive array
Receive sensitivity	-112 dBm (when BER=0.01) 500mw Average Power, Administrable In 8 Steps To 20mW Range (Fixed Wireless Local Loop) 4km Line of Sight Distance CS-S7 to Fixed Service Unit
Power supply	85VAC ~ 286VAC, 50/60Hz
Compliance	FCC Part 24 PCS
Power consumption	140W(maximum)
Lightning Protection power supply	15kV per IEC61000-4-5
Lightning Protection BRI line	15kV per IEC61000-4-5
ESD Protection	±8kV(Contact electronic Discharge) per IEC61000-4-2 ±15kV(Air-gap Discharge) per IEC61000-4-2
EMI standard	Class B VCCI
Waterproof design	Waterproof examination - Protection class 6 per JIS C 0920
Operating temperature	-15°C to 50°C 5°F to 122°F
Operating humidity	90% relative humidity
Physical size	24cm x 36cm x 16cm 9.5in x14.2in x 6.3in
Weight	11kg / 24.3lbs

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**UTStarcom, Inc. USA**  
1275 Harbor Bay Parkway  
Alameda, CA 94502 USA  
Tel: 510-864-8800  
Fax: 510-864-8802

[www.utstar.com](http://www.utstar.com)

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WS-DS-0613-CSSCA-0406