

## STAR<sup>®</sup> Submetering Data Collection Units

The Hexagram **STAR<sup>®</sup>** system provides fully automatic meter reading without meter readers, handhelds, or expensive wiring. Powerful, narrow band meter transmitters allow the use of a **single** data collector, without repeaters, to economically read large submetering installations in developments, high-rises, and other multi-tenant communities.

- The **STAR<sup>®</sup>** Data Collection Unit (DCU) receives, time-stamps, and stores meter reading data collected from **STAR<sup>®</sup>** Meter Transmission Units (MTUs).
- The **STAR<sup>®</sup>** DCU transfers meter reading information to the **STAR<sup>®</sup>** Network Control Computer (NCC) installed at any off-site location.



The **STAR<sup>®</sup>** DCU is mounted in a convenient location such as a utility closet or storage room. The DCU contains a radio receiver, computer, and a modem. Power is provided by a 120 vac source.

**STAR<sup>®</sup>** MTU messages are received by the DCU which decodes and error-checks the data. The information is time-stamped, processed, and stored with diagnostic information and data from other MTUs.

Once each day, the DCU contacts the off-site NCC and transfers the meter reading data. The NCC processes this information and provides billing and customer service data.

The standard model DCU has a telephone modem for communication with the NCC. However, the DCU can also be equipped with a cellular modem or other communication device.

### STAR<sup>®</sup>

#### Submetering Automatic Meter Reading System

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# STAR® SUBMETERING DATA COLLECTION UNIT (DCU)

## GENERAL SPECIFICATIONS

Reception Range .....	Up to several miles, depending on environment
Frequency .....	Licensed UHF channel (450 to 470 MHz)
Environmental .....	0° to +50° C; splash-proof enclosure for indoor use only
Memory Capacity.....	60,000 readings
Power Requirements.....	120 vac unswitched line power
Power Source.....	16 vac, class 2, UL approved plug-in transformer (supplied)
Backup Battery Life .....	5 days
Diagnostics .....	Line power presence is confirmed daily Back up battery capacity, memory and system tests are performed with each NCC call
Size.....	21"H x 12.5"W x 6.8"D
Weight.....	Approximately 30 lbs.

## SYSTEM SPECIFICATIONS

Maximum MTU Density .....	30,000 MTUs per DCU
DCU coverage .....	Up to 1square mile, depending on terrain and meter location
DCU-NCC Communication .....	Open architecture allows use of many communication networks, including radio, fiber-optic, power line carrier, and regular and cellular telephone

## COMPATIBILITY

The STAR® DCU supports MTUs servicing multiple utilities (gas, electric, and water).

NOTICE: The STAR® DCU complies with FCC requirements as a Part 15, Class A digital device. Hexagram reserves the right to change this product without prior notification. STAR® is a registered trademark of Hexagram, Inc. All software is property of Hexagram, Inc. Patents issued and pending.

## STAR<sup>®</sup> Submetering Modules

The Hexagram **STAR<sup>®</sup>** system provides fully automatic meter reading without meter readers, handhelds, or expensive wiring. Powerful, narrow band meter transmitters allow the use of a **single** data collector, without repeaters, to economically read large submetering installations in developments, high-rises, and other multi-tenant communities.

- The **STAR<sup>®</sup>** Meter Transmission Unit (MTU) is a small, sealed module which connects to any gas, water, or electric meter that provides an electronic output.
- The **STAR<sup>®</sup>** MTU transmits meter reading information to the **STAR<sup>®</sup>** Data Collection Unit (DCU) which is located on the site.



The **STAR<sup>®</sup>** MTU is mounted in a convenient location near the utility meter. Several times each day, the MTU broadcasts the meter reading and account information by way of a brief radio transmission that can be received up to several miles away.

**STAR<sup>®</sup>** MTU messages are received by the DCU located on the site which decodes and error-checks the data. The information is time-stamped, processed, and stored with diagnostic information and data from other MTUs.

**STAR<sup>®</sup>** MTUs are available with two inputs, which allows for ongoing reading of two separate meters in any combination. This means one MTU can read two water meters, or a water and a gas meter, or a gas and electric meter, - whatever two meters are installed.

**STAR<sup>®</sup>**

**Submetering  
Automatic Meter  
Reading System**

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# STAR® SUBMETERING METER TRANSMISSION UNIT (MTU)

## GENERAL SPECIFICATIONS

Transmission range .....	Up to several miles, depending on environment
Frequency .....	Licensed UHF frequency (450 to 470 MHz.)
Account number .....	Up to 12 digits
Meter reading .....	Up to 6 digits
Scale Factor .....	Programmable from 1:1 to 2000:1 (for pulse meters)
Inputs.....	Single or dual
Transmitter .....	Powerful, narrow band UHF transmitter per FCC Part 90
Battery life .....	Calculated 20 years @ 70°F
Environmental .....	0° to +50°C, indoor use only
Diagnostics.....	Tamper sense, battery status, meter malfunction (encoder meters)

## DIMENSIONS

Height .....	5.5 in.
Width .....	6.5 in.
Thickness .....	1 in.

## MOUNTING

MTUs are mounted on a nearby wall or joist. For gas applications, MTUs are available that mount directly behind the meter register.

## METER COMPATIBILITY\*

Generator Registers	Reed Switch Registers	Electronic Registers	Encoder Registers
Badger Read-O-Matic	Master Meter	Hersey ER-I	Sensus ECR
Hersey Gen-a-Reader	Precision Meter	Badger RTR	Schlumberger ARB
ABB Kent RMR	Metron-Farnier	All electronic electric meters	Schlumberger ProRead
Schlumberger Pulser-RM	Hexagram-supplied sensors for gas and electric meters	All others	Kent SCANCODER
All others	All others		Contact Hexagram

\*STAR® MTUs contain a versatile input which can be configured to meet almost any application.

## OPTIONAL FEATURES & FUNCTIONS (may require additional equipment.)

- Run-time recording for meter-less "allocation" billing
- Equipment monitoring
- Leak Detection
- Security

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