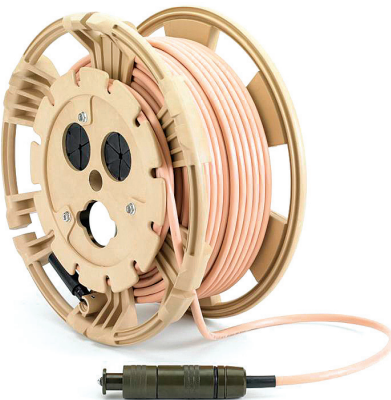## Overview

OCC's Modular Advanced Reel System (MARS™), the industry's first lightweight cable deployment reel system designed specifically for the demanding needs of harsh-environment fiber optic installations. Unlike traditional metal-style reels, MARS is a lightweight, modular system constructed of an impact modified polymer that is easily transported and is ideal for applications where cable needs to be deployed and reeled in quickly and stored efficiently. In addition, MARS offers a variety of deployment options, including optional frames, backpacks, shipping cases, and cable acquisition platforms throughout. This enables customers to meet the demands of diverse applications and uses with one modular reel and accessories platform. The OCC MARS reel can be used with simple deployable axles or with integrated A-frames, cable acquisition cradles, transit case systems, tripods, bumper mounts, backpacks and backpacks with fiber optic slip rings and the cartridge system. The MARS reel itself incorporates options for fiber optic cleaning kits: flip-out handle, 30-ft. built-in divider, connector cradle design, and stackable features. All these features (with a lower weight than common reel systems) make MARS the most advanced fiber optic reeling system available in today's market.

Applications

- Mobile Emergency Telecommunications Stations
- Mobile Tactical Shelters
- U.S. Army, Navy, and Marine Corps Military Tactical Deployments
- Broadcast
- Emergency Restoration and Deployable Communications

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Modular Advanced Reel System (MARS) – Features and Benefits

AFO–0100	AFO–0300	AFO–0500

AFO–0750	AFO–1000	AFO–0505 SPLIT REEL

Features and Benefits

- Fabricated with an impact absorbing polymer material which provides durability and strength while remaining lightweight. Material also eliminates rust resulting from field operation.
- Integrated cable payout and storage area enables operator to deploy small lengths of fiber cable without having to unspool the entire payload. Payout area does not impact cable volume.
- Interlocking stacking system enables reels to be stacked and interlocked during transit.
- Integrated connector storage allows multi-channel cylindrical connectors to be stored and locked in place for transit. Accommodates 0.50" to 2.1" diameter connectors.
- Molded hand openings allows for easy hand transportation and deployment.
- Built-in fiber optic connector cleaning kit option allows operator to maintain connectors during deployable situations.
- Lightweight retractable crank-and-handle system allows operators to easily rotate reel in deployment or take-up situations and store handle during transit.
- AFO-style reels can be provisioned with either 1" diameter round hole or 1" square axle hole.

To view the features of the MARS Reels in action, visit OCC's YouTube channel and view the MARS video at: www.youtube.com/watch?v=6QVW9KlVY3U, or by scanning with your smart phone here:

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Modular Advanced Reel System (MARS) – Specifications

Reel Performance Specifications

PARAMETER	SPECIFICATION	RANGE
Operating temperature	A336463	-30°C to +71°C
Storage temperature	A336463	-57°C to +85°C
Temperature-humidity cycling	A336463	+25°C to +65°C, RH 90-98%
Cold Drop Test	A336463	3.5 feet drop at -30°C
Flammability	UL-94 HB	Pass (HB Rating)
Vibration	A336463	3 axis, 10-33-10HZ, Horizontal 0.020 (in), Vertical 0.030 (in)

OCC's MARS AFO reels are qualified to U.S. Army CECOM specification A336463 and meet or exceed all of the requirements therein.
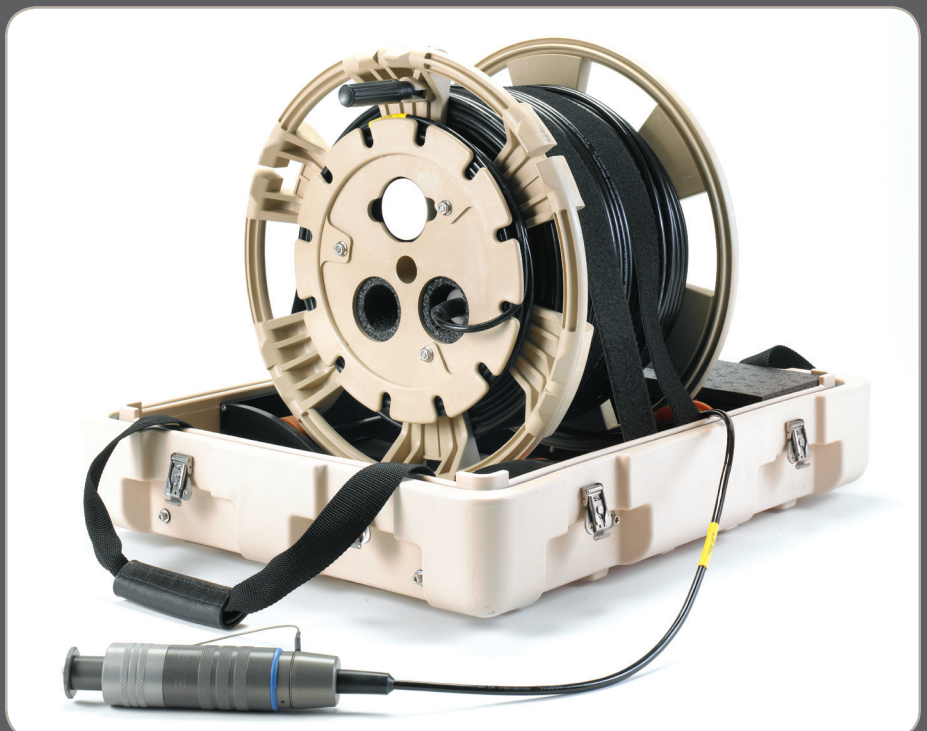
Reel Mechanical Specifications

PART NO.	FLANGE DIAMETER	HUB DIAMETER	WIDTH	WEIGHT	CAPACITY 5.5MM OD CABLE	CAPACITY 7.2MM OD CABLE
***-0100-X-Y-Z	17"	10"	5"	7 lbs.	100m	75m
***-0300-X-Y-Z	17"	8"	7.75"	8.5 lbs.	300m	200m
***-0500-X-Y-Z	17"	8"	10.75"	9.5 lbs.	500m	325m
***-0750-X-Y-Z	17"	8"	14.75"	11 lbs.	750m	500m
***-1000-X-Y-Z	17"	8"	18.75"	12.5 lbs.	1000m	675m

Notes:

X=Color, Y=Cleaning Kit type, Z=Axle Type

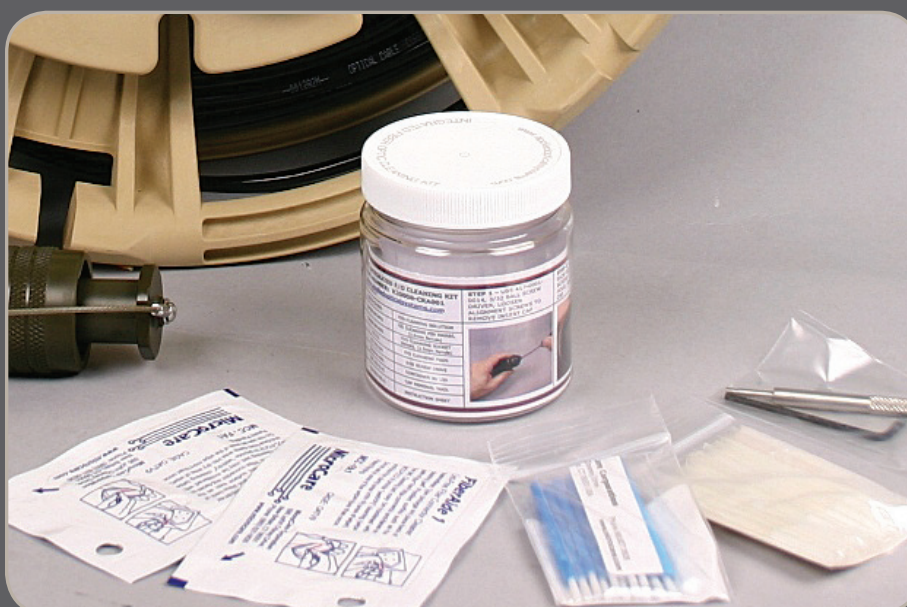See Reel Part Numbering on next page for additional details.

Modular Advanced Reel System (MARS) – Ordering information

Reel Part Numbering	AFO	–0100	–T	–M	–1	

CONFIGURATION TYPE
ACR Reel type commercial
AFO Reel type military (desert tan/green/black)

AXLE TYPE
1 1" Round Axle Hole
2 1" Square Axle Hole

REEL SIZE/CAPACITY (@ 5.5MM DIAMETER CABLE)
0100 100 meters
0300 300 meters
0500 500 meters
0750 750 meters
1000 1000 meters

INTEGRATED REEL CLEANING KIT*
A 4/12 CH M83526
B Expanded beam
E 4/12 CH EZ-MATE
F F-LINK™ Style Connectors
H Hermaphroditic/SMPTE ferrule connectors
J 6/24 CH EZ-MATE
N M28876 ferrule connectors
P NAVSEA Pierside ferrule connectors
Q 2.5mm ferrule connectors
S 1.6-2.0mm ferrule connectors, M28876
T 2 CH TFOCA
U 1.25mm ferrule connectors
W MHC® II 4/8 CH
X None

REEL COLOR
T Desert Tan
G Green
B Black
Custom colors available.

Cleaning Kits

OCC's MARS meets the challenge of today's harsh environment by offering an integrated solution to clean and maintain multi-channel cylindrical fiber optic connectors in the field. MARS can be provisioned with a variety of cleaning kits that correspond to popular connector styles, including MIL-DTL-83526, MIL-PRF-28876, MIL-DTL-38999, NAVSEA Pierside, MIL-C-83526 (TFOCA), F-LINK™ and TFOCA-II®. Cleaning Kits and Restoration Kits are available for 4, 6, 8, 12, 18 and 24-channel-style connectors.

CLEANING KITS	
K2000-KAC00x	4/12 CH M83526
K2000-KBC00x	Expanded beam
K2000-KEC00x	4/12 CH EZ-MATE
K2000-KFC00x	F-LINK Connectors
K2000-KHC00x	Hermaphroditic/SMPTE
K2000-KJC00x	6/24 CH EZ-MATE
K2000-KNC00x	M28876
K2000-KPC00x	NAVSEA Pierside
K2000-KQC00x	2.5mm ferrule
K2000-KSC00x	1.6–2.0mm ferrule
K2000-KTC00x	2 CH TFOCA
K2000-KUC00x	1.25mm ferrule
K2000-KWC00x	MHC® II 4/8CH

In part numbers above for 100 meter reels, x="1", all other reels use "2"

*TFOCA-II® is a registered trademark of Amphenol Fiber Systems International.

Storage Case

Features and Benefits

- Turn-key storage cases are designed to accomodate the MARS family of reels
- Interlocking waffle pattern enables secure stackability of cases during transit
- Secure latching system holds tight even in rough conditions
- Industrial foam lining maintains tight fit around reels during transit
- Pressure relief valve allows for pressure equalization in high altitude conditions

STORAGE CASE	
ARS-2100-Y	Storage case, dual 100M reels
ARS-0100-Y	Storage case, 100M reel
ARS-0300-Y	Storage case, 300M reel
ARS-0500-Y	Storage case, 500M reel
ARS-0750-Y	Storage case, 750M reel
ARS-1000-Y	Storage case, 1000M reel

Replace "Y" with color code: B = black, G = green, T = desert tan

Detail of secure latching system

Shown in Tan

Integrated Axle Reel (A-Frame)

AAR-750-B

Features and Benefits

- Easily deployed and stored base for 750M and 1000M reels
- U bearing allows convenient swapping of reels
- Pin latches secure reel during deployable situations
- The reel axle is field installable and can be interchanged with back pack axle
- Integrated crank handle allows for easy acquisition of cable

INTEGRATED AXLE REEL	
AAR-750-Y	Base with axle for 750M reel
AAR-1000-Y	Base with axle for 1000M reel

Reels sold separately

Detail of U-bearing

T-Frame

ARA-1000-X-X-T

Features and Benefits

- Design allows for disassembly into 5 components for easy shipping and storage
- Pin latches are tethered to base and lock into place
- Integrated brake adjusts the drag applied to the reel. Prevents overspin
- Integrated crank handle allows easy acquisition of cable
- The axle on the AAR base can also be used for reel storage or deployment
- Curved upper handle bar allows for easy management and deployment

T-FRAME	
ABF-0750-Y	T-frame with brake, 750M
ABF-1000-Y	T-frame with brake, 1000M
ARA-0750-Y	T-frame, without brake, 750M
ARA-1000-Y	T-frame, without brake, 1000M

Replace "Y" with color code: B = black, G = green, T = desert tan

detail of pin latch

Detail of disassembled T-frame
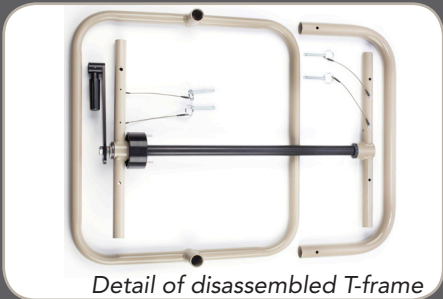
Tripod

ART-0300-T

Features and Benefits

- Design allows for disassembly into 4 components for easy shipping and storage
- Pin latches are tethered to base and lock into place
- Integrated brake adjusts the drag applied to the reel. Prevents overspin
- Axles are easily interchanged and available in 100, 300 and 500M sizes
- The axle latch can easily be positioned to retain or remove the reel
- Curved handle bar allows for easy management and deployment

TRIPOD	
ART-0100-Y	Tripod, 100M, without brake
ART-0300-Y	Tripod, 300M, without brake
ART-0500-Y	Tripod, 500M, without brake
ATB-0100-Y	Tripod, 100M, with brake
ATB-0300-Y	Tripod, 300M, with brake
ATB-0500-Y	Tripod, 500M, with brake

Replace "Y" with color code: B = black, G = green, T = desert tan

Detail of disassembled Tripod

Detail of pin latch

Detail of axle latch

Collapsible Tripod

AFB-0300-B

Features and Benefits

- Design allows for quick folding for easy transport, shipping and storage
- Pin latches are tethered to base and lock into place
- Integrated brake adjusts the drag applied to the reel. Prevents overspin
- Axles are easily interchanged and available in 100, 300 and 500M sizes
- The axle latch can easily be positioned to retain or remove the reel

COLLAPSIBLE TRIPOD	
AFB-0100-Y	Collapsible Tripod, 100M
AFB-0300-Y	Collapsible Tripod, 300M
AFB-0500-Y	Collapsible Tripod, 500M

Replace "Y" with color code: B = black, G = green, T = desert tan

Reel Acquisition Cradle

AAR-750-B

Features and Benefits

- Cradle allows reels to spin for deployment and retrieval without additional frame
- Retractable handle on reel fully accessible for reeling
- Straps secure reel in place during transit to prevent damage or shifting
- Full access to both tether end of cable and main end
- Reel locks securely to cradle with simple turn of quick connect coupling
- Can be mounted independently to a surface, or mounted into transit cases

CRADLE ACQUISITION SYSTEM	
ARN-0300-Y	Reel acquision cradle, 300M
ARN-0500-Y	Reel acquision cradle, 500M
ARN-0750-Y	Reel acquision cradle, 750M
ARN-1000-Y	Reel acquision cradle, 1000M

Replace "Y" with color code: B = black, G = green, T = desert tan

Transit Case with Acquisition Cradle

ACC-0500-B

Features and Benefits

- Turn-key transit case with deployable cradle secures reels while built-in cradle enables fast deployment without additional set up
- Interlocking waffle pattern enables secure stackability of cases during transit
- Secure latching system holds tight even in rough conditions
- Industrial foam lining maintains tight fit around reels during transit
- Pressure relief valve allows for pressure equalization in high altitude conditions
- Case and cradle designed to work seamlessly with deployable handle on reels
- Reel lock secures reel during transit
- Modular reel lock on cradle allows reels to be installed or removed from cradle
- Integrated carry straps on base allow for two person deployment
- Mouse holes allow cable to be deployed with case lid on base
- Shipping strap provides additional support to reel in cradle during transit
- Utility pouch area provides storage for cleaning kits

detail of handle in use on cradle

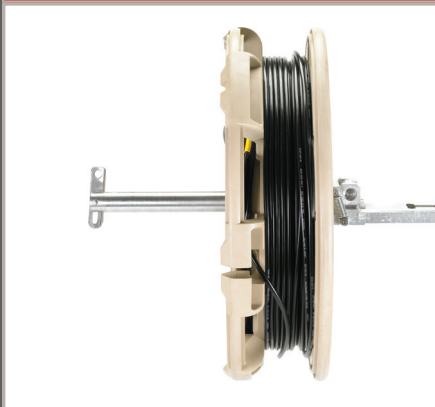| TRANSIT CASE	
ACC-0300-Y	Transit case with cradle, 300M
ACC-0500-Y	Transit case with cradle, 500M
ACC-0750-Y	Transit case with cradle, 750M
ACC-1000-Y	Transit case with cradle, 1000M

Replace "Y" with color code: B = black, G = green, T = desert tan

Bumper Mount

ABM-0100

Features and Benefits

- Swing away axle holds reels in place during deployment or retrieval on a vehicle or platform where it can be folded away when in motion
- Can be used to hold multiple combinations of the smaller reels
- Axle latch quickly locks or releases reels on the axle mount
- Can be mounted to various surfaces, bolted or welded in place

CRADLE ACQUISITION SYSTEM	
ABM-0100	Bumper mounted axle, 100M
ABM-0300	Bumper mounted axle, 300M
ABM-0500	Bumper mounted axle, 500M

Backpack

ARB-0500-T

Features and Benefits

- Lightweight frame allows mobile cable deployment by one person
- Ideal for quick deployment in less than ideal terrain
- Accommodates standard MARS reels without modification.
- A second reel can be installed for longer deployments
- Straps are adjustable for comfortable fit
- Cable can be deployed/retrieved with backpack on ground
- Optional versions are available with slip rings

BACKPACK	
ARB-0500-Y	Backpack, 500M
ARR-0500-Y	Backpack, 500M, with fiber optic/electrical slip ring

Replace "Y" with color code: B = black, G = green, T = tan camo

detail of front of backpack

Cartridge System

Features & Benefits:

- Self enclosed metal case eliminates the need for shipping containers.
- Gravity latch lid which automatically holds the open lid in upright position.
- Flip lid/tote handle and wheeled luggage capability allow for easy transport
- Reel roller elements and release knob allow reels to be interchanged or removed
- Stackability/inter-lock feature allows easy storage and transport of multiple cartridge systems. The wheels and floor mounts protrude into the lid to form an inter-locking system. A lock pin is used to inter-lock two or more cartridges together and they are designed to sustain 600 lbs of cargo.
- Built in tool box stores critical tools and fixtures during transport.

Ordering Information

PART NUMBER	DESCRIPTION	HEIGHT	WIDTH	DEPTH	WEIGHT
ACD-0500-Y	Modular, deployable cartridge system, 500M	20.74"	19.75"	14.5"	23 lbs.
ACD-0750-Y	Modular, deployable cartridge system, 750M	20.74"	19.75"	18.5"	28 lbs.
ACD-1000-Y	Modular, deployable cartridge system, 1000M	20.74"	19.75"	22.5"	33 lbs.

Replace "Y" with color code: B = black, G = green, T = desert tan

Detail of back interlocking wheels

Detail of pin latch

Detail of tool box

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