

CONTRACTOR 3rd PARTY WORK - ANNEX NO. 33
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER
AND
ASRC FEDERAL DATA SOLUTIONS, LLC
UNDER SPACE ACT AGREEMENT NO. KCA-4559
FOR
OPTICAL TRACKING, MEDIA AND COMMUNICATIONS SERVICES

ARTICLE 1. PURPOSE

This Annex shall be for the purpose of ASRC Federal Data Solutions, LLC (AFDS) utilizing the National Aeronautics and Space Administration John F. Kennedy Space Center (NASA KSC) onsite resources available to AFDS under the Kennedy Infrastructure, Applications, and Communications (KIAC), to perform Contractor 3rd Party Work (C3PW) at NASA KSC and Cape Canaveral Space Force Station (CCSFS) for Space Exploration Technologies Corporation (SpaceX), 1 Rocket Road, Hawthorne, CA 90250 on a non-interference basis. Specifically, under this Annex, AFDS will perform the following work for SpaceX:

1. Provide tracking imaging services for SpaceX launches and return. Specifically, deploy optical trackers to Universal Camera Sites (UCS) 10, 23, 25, NOTU Berm, and Ponce de Leon Tracking Station or Patrick Space Force Base, each equipped with visible and infrared cameras. UCS-10 to follow first stage following stage separation; UCS-23 to continue following the second stage, unless otherwise directed by the customer. Any combination of UCS 10, 23, 25, NOTU Berm, Ponce de Leon Station, or Patrick Space Force Base could be used in support of return.
2. Post-launch, provide two recordings from each camera – one with timing, in the image, and one without timing. Request delivery by Launch plus three working days. SpaceX will furnish a portable 1 terabyte hard drive with Firewire and USB interfaces.
3. In the event of a mishap, impound data items pending further instruction from the Mishap Investigation Board.
4. The KIAC Photo Planner shall coordinate with SpaceX for final imaging views, imaging end items and camera site locations.
5. Provide Webcast support at the KSC Press Site Area. Support includes: Launch Countdown and webcast broadcast on the KSC Countdown Display, Webcast audio feed on the KSC Press Site's outside audio system, webcast broadcast inside Press Site building.
6. Provide Communications Controller/Technician Services to support internal SpaceX processes and monitoring related to the launch.
 - a. The anticipated launch manifest requiring Optical Tracker Services for SpaceX are as follows:

Mission	Location	Date
• 10 Commercial	CCSFS, Pad 40	GFY 2022
• 3 Commercial	KSC, Pad 39A	GFY 2022
• 2 Commercial	CCSFS, Pad 40	GFY 2023
• 2 Commercial	KSC, Pad 39A	GFY 2023
• USSF-44	KSC, Pad 39A	Oct 9, 2021
• NASA CREW-3	KSC, Pad 39A	Oct 31, 2021
• NASA CREW-2 Return	CCSFS	Nov 2021
• IXPE	KSC, Pad 39A	Nov 17, 2021
• CRS-24	KSC, Pad 39A	Dec 4, 2021
• Digital Globe 1	CCSFS, Pad 40	12/10/2021
• NASA CREW-3 Return	CCSFS	Feb 1, 2022
• AX-1	KSC, Pad 39A	Feb 4, 2022
• USSF-52	KSC, Pad 39A	Feb 14, 2022
• NASA CREW-4	KSC, Pad 39A	Apr 5, 2022
• CRS-25	KSC, Pad 39A	May 4, 2022
• NASA CREW-4 Return	CCSFS	June 1, 2022
• Psyche	KSC, Pad 39A	Aug 1, 2022
• CRS-26	KSC, Pad 39A	Sep 2, 2022
• USSF-67	KSC, Pad 39A	Oct 2, 2022
• NASA CREW-5	KSC, Pad 39A	Oct 25, 2022
• GPS III-6	CCSFS, Pad 40	Nov 15, 2022
• CRS-27	KSC, Pad 39A	Jan 10, 2023
• NASA CREW-6	KSC, Pad 39A	Feb 1, 2023

The legal authority for this Annex, consistent with the Umbrella Agreement, is in accordance with the Space Act, Other Transaction Authority (OTA), 51 U.S.C. § 20113(e).

ARTICLE 2. RESPONSIBILITIES

A. NASA KSC will use reasonable efforts to:

1. Provide Partner access to facilities, equipment, and institutional support required for the performance of the work outlined in Article 1 at levels equivalent to that required for AFDS to perform similar work under the KIAC Contract with NASA, on a not-to-interfere-with-Government-work basis.
2. Modify this Annex, as necessary, to support changes in scope or quantity of services requested by SpaceX.

B. Partner must:

1. Reimburse NASA in accordance with the Umbrella Agreement for use of Government resources utilized in performance of the C3PW activities, KCA-4559.
2. Forward advance payments to NASA in accordance with the Umbrella Agreement based on the estimated number of hours and associated costs for the C3PW activity, with subsequent reconciliation based on actual costs.

ARTICLE 3. SCHEDULE AND MILESTONES

The planned major milestones for the activities for this Annex defined in the "Responsibilities" Article are as follows:

N/A

ARTICLE 4. FINANCIAL OBLIGATIONS

Partner agrees to advance NASA the estimated cost of \$188,577.54 identified on the Estimated Price Report (EPR) as reimbursement for NASA to carry out its responsibilities under this Annex. As additional work requirements within the scope of this Annex are identified, subsequent annexes and/or EPR will be processed to assure the total project and value are documented, and advance deposit made prior to the work being performed in accordance with the Umbrella Agreement.

ARTICLE 5. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

A. Data produced under this Annex which is subject to paragraph C. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement will be protected for the period of one (1) year.

B. Under paragraph H. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement, Disclosing Party provides the following Data to Receiving Party. The lists below may not be comprehensive, are subject to change, and do not supersede any restrictive notice on the Data provided.

1. Background Data: The Disclosing Party's Background Data, if any, will be identified in a separate technical document.
2. Third Party Proprietary Data: The Disclosing Party's Third Party Proprietary Data, if any, will be identified in a separate technical document.
3. Controlled Government Data: The Disclosing Party's Controlled Government Data, if any, will be identified in a separate technical document.

4. The following software and related Data will be provided to Partner under a separate Software Usage Agreement: None

ARTICLE 6. TERM OF ANNEX

This Annex becomes effective upon the date of the last signature in below (“Effective Date”) and shall remain in effect until the completion of all obligations of both parties hereto, or until termination of KIAC contract #80KSC017C0011, whichever comes first, unless such term exceeds the duration of the Umbrella Agreement. The term of this Annex shall not exceed the term of the Umbrella Agreement. The Annex automatically expires upon the expiration of the Umbrella Agreement.

ARTICLE 7. RIGHT TO TERMINATE

Either party may unilaterally terminate this Annex by providing thirty (30) calendar days written notice to the other Party.

ARTICLE 8. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Annex.

NASA John F. Kennedy Space Center

Joshua L. Hester
Contracting Officer's Representative
Mail Code: IT-A
Kennedy Space Center, FL 32899
Phone: 321-867-3965
E-mail: joshua.l.hester@nasa.gov

ASRC Federal Data Solutions, LLC

John D. Cox
Director, Comm Services
Mail Code: KIAC 158
Kennedy Space Center, FL 32899
Phone: 321-867-5909
E-mail: john.d.cox@nasa.gov

ARTICLE 9. MODIFICATIONS

Any modification to this Annex shall be executed, in writing, and signed by an authorized representative of NASA and the Partner. Modification of an Annex does not modify the terms of the Umbrella Agreement.

ARTICLE 10. SIGNATORY AUTHORITY

The signatories to this Annex covenant and warrant that they have authority to execute this Annex. By signing below, the undersigned agrees to the above terms and conditions.

NASA John F. Kennedy Space Center

Vanessa K. Stromer

Director, Information Technology and
Communications Services

Mail Code: IT

Kennedy Space Center, FL 32899

Phone: 321-867-4700

E-mail: vanessa.stromer-1@nasa.gov

ASRC Federal Data Solutions, LLC

Holly S. Pilo

Contract Administrator

Mail Code: KIAC 142

Kennedy Space Center, FL 32899

Phone: 321-213-0793

E-mail: holly.s.pilo@nasa.gov

Signature/Date:

**VANESSA
STROMER**Digitally signed by VANESSA
STROMER
Date: 2021.09.30 13:07:26 -04'00'

Signature/Date:

Holly Pilo (affiliate)Digitally signed by Holly Pilo
(affiliate)
Date: 2021.09.30 12:03:17 -04'00'

If use of Government Furnished Property (GFP) is requested for this C3PW Annex

Didesta C. Vazquez Soto

Contracting Officer

Mail Code: OP-MS

Kennedy Space Center, FL 32899

Phone: 321-867-7127

E-mail: didesta.c.vazquezso@nasa.gov

Signature/Date:

**DIDETSA
VAZQUEZ SOTO**Digitally signed by DIDETSA
VAZQUEZ SOTO
Date: 2021.09.30 12:12:53 -04'00'

The Contracting Officer hereby approves use of GFP for the purpose(s) stated herein, subject to (1) the concurrence of the Contracting Officer's Representative for the said contract AND (2) the formal execution of the Annex and the contractor's payment/reimbursement to the Government for the amount reflected in Article 4, Financial Obligations, in accordance with the following:

Check applicable box:

☐ Subject to a rental fee of \$_____ per hour in accordance with FAR 52.245-9, Use and Charges.

☒ In lieu of a separate rental fee, reimbursement to the Government of the costs reflected in Article 4, Financial Obligations provides adequate consideration for the use of the identified Government Property (held by the contractor) for the purpose(s) stated in the Annex.

EXHIBIT 1: Annex Checklist**CONTRACTOR 3rd PARTY WORK (C3PW) PROJECT PROPOSAL CHECKLIST**

In accordance with terms and conditions set forth in Space Act Umbrella Agreement No. KCA-4559, dated February 26, 2018, Annex No. 33, for contract #80KSC017C0011, the Partner provides NASA KSC with the following information in support of proposed C3PW work:

- A. Describe the unique Nature of KSC Resources (i.e., Government-owned facilities, property, labor and/or expertise) not available from Commercial Sources.

This C3PW activity enables AFDS the ability to utilize the KIAC unique capabilities and equipment to provide this service to SpaceX via a commercial to commercial contract. The equipment being used to capture the images is the Kineto Tracking Mount (KTM). The KTM is designed to track fast moving objects precisely while providing time-space-position-information (TSPI).

The AFDS employees that perform the tracker services are highly skilled Electronic Tracking Technicians, Instrumentation Specialists, Engineers, etc. These personnel have unique ability in being able to capture launch images and they also have specialized training and knowledge regarding impounding of data in the event it is required. The Communications Controller/Technicians have an in-depth familiarization with KSC and CCSFS and have completed training unique to the locations and possess the badging required to access where the activities will be performed.

The AFDS employees that perform Webcast support are highly skilled Broadcast Engineers, Multi-Media Specialists and other required skill classifications required to deliver quality internal KSC distribution services (countdown clock, press site monitors, and KSC Press Site audio distribution) which is a service that only AFDS can perform. Additionally, KIAC's proximity to SpaceX facilities and personnel promotes timely responsiveness and enables KIAC availability for regular interface with SpaceX and immediate response. KIAC personnel have an in-depth familiarization with KSC, and CCAFS and have completed training unique to these locations and possess the badging required to access areas where these C3PW activities will be performed.

AFDS thus has the skills to work with KSC's unique systems and mitigate risks to NASA's infrastructure, systems, and equipment.

Providing these services to SpaceX benefits both AFDS and the Government by aligning with KSC's focus on the operations and use of a multiuser space launch complex.

- B. Location of Work Performance:

Universal Camera Sites (UCS) 10, 23, 25, NOTU Berm and Ponce de Leon Tracking Station or Patrick Space Force Base, Communications Services at the SSPF, Press Site News Facility K7-1205F, and NASA News Center K7-1207.

C. Civil service labor is required (additional information may be required under Checklist item D):

☐ Yes ☒ No

D. If Civil service labor is required, AFDS has verified the appropriate flow down provisions from their Reimbursable Space Act Umbrella Agreement with NASA have been incorporated into the 3rd party agreement: ☐ Yes ☐ No ☒ Not Applicable

1. If yes, please provide the following information:

a. Work being performed by the civil servant:

b. Location(s) where civil servant work will be performed:

c. Describe the hazards(s), if any, that the civil servant will be exposed to.

E. The Annex activity introduces new hazards or changes preexisting controls/mitigations for the normal work performed under KSC contract to NASA: ☐ Yes ☒ No

1. If yes, what are the hazard(s) and planned change(s) to existing controls/mitigations?

2. Verify the Partner's Safety manager has reviewed the Annex and Checklist, work activity, hazards, and planned change(s): ☒ Yes

F. The following hazards apply to this Annex activity (click all that apply):

- | | |
|---|---|
| ☐ Confined Spaces | ☐ Explosives |
| ☐ Liquid Propellant | ☐ Lifting |
| ☐ Cryogenics | ☐ Pressurized Vessels/Systems |
| ☐ Radiation | ☐ Energized Electrical Systems |
| ☐ Hazardous Materials (e.g., fluids, gases, corrosive liquids) | |
| ☒ Other: _____ None _____ | |

G. Identify Government facilities (office space, labs, shops, test facilities, etc.) anticipated to be utilized in accomplishment of the C3PW.

CCSFS Building 1605, Hangar G, K7-1205F, Press Site News Facility, and K7-1207, NASA News Center.

H. Use of GFP, including Contractor Accountable Government Property (CAGP) and Institutional Accountable Government Property (IAGP), is requested:

☒ Yes ☐ No

If yes, attach list divided into CAGP and IAGP with values for each item.

Tracking Equipment Required to Support SpaceX Launches					
Description	Model	Tag	Value	IAGP or CAGP	Serial Number
Kineto Tracking Mount	Contraves Model 433	2243003	\$250,000.00	IAGP	295
Digital Control System (DCS)	L3 Brashear 719942-1	2300657	\$65,000.00	IAGP	BLP-0995
KTM PC for tuning and Focus	Superlogic	165263	\$1,795.00	CAGP	
150 inch focal length lens	Brashear SR-150	2213430	\$247,000.00	IAGP	1
HDTV Camera	Red One	2314807	\$18,475.00	IAGP	7083
HDTV Recorder	BlackMagic	A000076	\$1,750.00	CAGP	
HDTV Monitor	Panasonic BT-LH1700WP	2241176	\$2,750.00	IAGP	
150 inch focal length lens	Brashear SR-150	2213427	\$247,000.00	IAGP	4
Lens focus PC	Industrial Computers Inc	2583786	\$2,699.00	IAGP	
High Speed Digital	Vision Research Flex	2298545	\$92,567.36	IAGP	
HSD Control PC	Dell Precision	2243651	\$2,792.00	IAGP	
HD Video Recorder	Quvis Encore	2506368	\$29,696.00	IAGP	
Time Code Master (Panasonic)	Evertz	N007192	\$4,150.00	CAGP	
HDTV Monitor	Panasonic BT-LH1700WP	2241180	\$2,750.00	IAGP	
150 inch focal length lens	Brashear SR-150	2213428	\$247,000.00	IAGP	
SWIR	IO Industries Flare 2K	2614709	\$2,645.00	IAGP	
Digital SLR	Canon 7D	2561552	\$1,900.00	IAGP	
800 mm lens	Canon	2294720	\$10,500.00	IAGP	
2X Extender	Canon EF 2XIII	2296511	\$459.99	IAGP	
Mobile Control Room 6	Lark	2239846	\$4,827.00	IAGP	
GPS Receiver	Tru Time	1661954	\$5,225.00	IAGP	
			\$1,240,981.35		
Kineto Tracking Mount	Contraves Model 433	2238191	\$250,000.00	IAGP	279
Digital Control System (DCS)	L3 Brashear 719942-1	none	\$63,800.00	IAGP	
150 inch focal length lens	Brashear SR-150	2213433	\$247,000.00	IAGP	2
HDTV Monitor (Monitor)	Panasonic BT-LH1700WP	2238955	\$2,750.00	IAGP	
Time Code Master (Red Back up)	Evertz	N007183	\$4,845.00	IAGP	
150 inch focal length lens	Brashear SR-150	2213431	\$247,000.00	IAGP	3
High Speed Digital	IDT OS-10	2620991	\$78,700.00	IAGP	
HSD Control PC	Hewlett Packard	2300719	\$2,949.11	IAGP	
500 mm lens	Canon	2294719	\$6,000.00	IAGP	
2X Extender	Canon EF 2XIII	2296510	\$459.99	IAGP	
Digital SLR	Canon 7D	2561552	\$1,900.00	IAGP	
Mobile Control Room 2	Overbuilt	2243006	\$20,000.00	IAGP	
GPS Receiver	Tru Time	2242853	\$2,295.00	IAGP	

			\$927,699.10		
Kineto Tracking Mount	Contraves Model 433	2238195	\$250,000.00	IAGP	280
Digital Control System (DCS)	L3 Brashear 719942-1	5087863	\$63,800.00	IAGP	
150 inch focal length lens	Brashear SR-150	2213435	\$247,000.00	IAGP	9
HDTV Camera	Red Mysterium	2197220	\$24,000.00	IAGP	
200 inch focal length lens	Contraves	2298382	\$200,000.00	IAGP	2004
HDTV Camera	Red One	2594650	\$17,500.00	IAGP	6996
Time Code Master	Evertz	N007195	\$4,850.00	CAGP	
HDTV Monitor	Panasonic BT-LH1700WP	2241192	\$2,750.00	IAGP	
HDTV Camera	Red One	2594650	\$24,000.00	IAGP	
Time Code Master	Evertz	N007185	\$4,850.00	CAGP	
HDTV Monitor	Panasonic BT-LH1700WP	2241166	\$2,750.00	IAGP	
Digital SLR	Nikon D600	2614637	\$1,996.95	IAGP	
SWIR	IOI Flare 2K	A000078	\$4,545.00	CAGP	
Tracking Equipment Required to Support SpaceX Launches Cont'd.					
HDTV Recorder	BlackMagic	A000075	\$1,750.00	CAGP	
HDTV Monitor	Black Magic	2298500	\$604.98	IAGP	
Mobile Control Room 5	Lark	2239837	\$4,827.00	IAGP	
Mobile Radio	Motorola	232037	\$1,385.89	IAGP	
GPS Receiver	Symeticon	N001935	\$3,158.00	IAGP	
			\$859,767.82		
168" AUTOCOLLIMATOR NMN	Fecker	2240972	\$14,250.00	IAGP	
			\$14,250.00		
Fork Lift	Crown Walkie Stacker	2240849	\$6,742.00	IAGP	
Oscilloscope (est value)	Tektronix TDS 2024B	M91017	\$2,400.00	CAGP	
			\$9,142.00		
M7360-2377 (COMM CONTROL) IAGP				IAPG	
RADIO, PORTABLE	MOTOROLA H84QDD9PW5AN	234952	\$2,030.80	"	
RADIO, PORTABLE	MOTOROLA H84QDD9PW5AN	234953	\$2,030.80	"	
RADIO, PORTABLE	MOTOROLA H84QDD9PW5AN	234951	\$2,030.80	"	
RADIO, PORTABLE	MOTOROLA H84QDD9PW5AN	234950	\$2,030.80	"	
RADIO, PORTABLE	MOTOROLA H84QDD9PW5AN	234948	\$2,030.80	"	
RADIO, PORTABLE	MOTOROLA H84QDD9PW5AN	234946	\$2,030.80	"	

RADIO, PORTABLE	MOTOROLA H84QDD9PW5AN	234947	\$2,030.80	"	
RADIO, PORTABLE	MOTOROLA H84QDD9PW5AN	234945	\$2,030.80	"	
RADIO, PORTABLE	MOTOROLA H84QDD9PW5AN	234954	\$2,030.80	"	
RADIO, PORTABLE	MOTOROLA H84QDD9PW5AN	234949	\$2,030.80	"	
TELEVISION, 80"	SHARP LC80LE650U	2614786	\$2,800.00	"	
TELEVISION, 80"	SHARP LC80LE650U	2614787	\$2,800.00	"	
COMPUTER, CUSTOM BUILT	FRACTAL DESIGN CORE2500	2302301	\$2,300.00	"	
			\$28,208.00		
M7360-2377 (COMM CONTROL) CAGP				CAGP	
KEYSET, TYPE F OIS-M	FREQUENTIS 30-1002200	N008812	\$3,183.00	"	
KEYSET, TYPE F OIS-M	FREQUENTIS 30-1002200	N008790	\$3,183.00	"	
KEYSET, TYPE F OIS-M	FREQUENTIS 30-1002200	N008808	\$3,183.00	"	
KEYSET, TYPE F OIS-M	FREQUENTIS 30-1002200	N008811	\$3,183.00	"	
KEYSET, TYPE F OIS-M	FREQUENTIS 30-1002200	N008840	\$3,183.00	"	
KEYSET, TYPE F OIS-M	FREQUENTIS 30-1002200	N008806	\$3,183.00	"	
KEYSET, TYPE F OIS-M	FREQUENTIS 30-1002200	N008803	\$3,183.00	"	
KEYSET, TYPE F OIS-M	FREQUENTIS 30-1002200	N008838	\$3,183.00	"	
KEYSET, TYPE F OIS-M	FREQUENTIS 30-1002200	N008089	\$3,029.00	"	
KEYSET, TYPE F OIS-M	FREQUENTIS 30-1002200	N008069	\$3,029.00	"	
READER, TIME CODE	DGM TCR290	N005954	\$1,325.00	"	
READER, TIME CODE	DGM TCR290	N005955	\$1,325.00	"	
			\$34,172.00		

Grand Total**\$3,114,220.27**

C3PW AFDS/KIAC Launch Broadcast Services and Video Support Equipment
for SpaceX

Asset/ ECN/NC N	Item Name	Manufacturer Name	Model Number	Serial Number	Value	MAXIMO Accountabl e Value
N009886	Video Frame Sync	AJA	FS4	2FF000752	\$4,270.00	CAGP
N009831	Video Frame Sync	AJA	FS4	2FF000655	\$4,720.00	CAGP
N010273	Video Frame Sync	AJA	FS4	2FF001568	\$4,720.00	CAGP
N010282	Video Frame Sync	AJA	FS4	2FF001571	\$4,720.00	CAGP
N010275	Video Frame Sync	AJA	FS4	2FF001569	\$4,720.00	CAGP
N010274	Video Frame Sync	AJA	FS4	2FF001567	\$4,720.00	CAGP
N010281	Video Frame Sync	AJA	FS4	2FF001632	\$4,720.00	CAGP
129806	Microphone Mixer	ALTEC LANSING	1678C	K335153	\$2,252.00	CAGP
N011705	MONITOR, AUDIO	BLACKMAGI C DESIGN	HDL- AUDMON1RU12G	7388364	\$1,004.00	CAGP
N011654	MONITOR, AUDIO	BLACKMAGI C DESIGN	HDL- AUDMON1RU12G	7042655	\$1,004.00	CAGP
N011653	MONITOR, AUDIO	BLACKMAGI C DESIGN	HDL- AUDMON1RU12G	7042870	\$1,004.00	CAGP
N009642	Video Frame Sync/Process or	BLACKMAGI C DESIGN	TeranexEX	2508621	\$1,299.00	CAGP
N009649	Video Frame Sync/Process or	BLACKMAGI C DESIGN	TeranexEX	2440742	\$1,290.00	CAGP
N009650	Video Frame Sync/Process or	BLACKMAGI C DESIGN	TeranexEX	2440754	\$1,290.00	CAGP
N010732	Video Frame Sync/Process or	BLACKMAGI C DESIGN	TeranexAV	6078493	\$1,397.00	CAGP
N010733	Video Frame Sync/Process or	BLACKMAGI C DESIGN	TeranexAV	607860	\$1,397.00	CAGP
N010734	Video Frame Sync/Process or	BLACKMAGI C DESIGN	TeranexAV	6079002	\$1,397.00	CAGP
N010735	Video Frame Sync/Process or	BLACKMAGI C DESIGN	TeranexAV	607851	\$1,397.00	CAGP
N010736	Video Frame Sync/Process or	BLACKMAGI C DESIGN	TeranexAV	6078598	\$1,397.00	CAGP

N010737	Video Frame Sync/Processor	BLACKMAGIC DESIGN	TeranexAV	6135112	\$1,397.00	CAGP
N010738	Video Frame Sync/Processor	BLACKMAGIC DESIGN	TeranexAV	6078638	\$1,397.00	CAGP
N010739	Video Frame Sync/Processor	BLACKMAGIC DESIGN	TeranexAV	6078670	\$1,397.00	CAGP
N010740	Video Frame Sync/Processor	BLACKMAGIC DESIGN	TeranexAV	6134573	\$1,397.00	CAGP
N011631	Video Frame Sync/Processor	BLACKMAGIC DESIGN	TeranexAV	7023320	\$1,491.00	CAGP
2937878	CONTROL PANEL, XY	EVERTZ MICROSYS	CP2402E	7586780018	\$1,241.00	CAGP
N010901	Camera Controller	PANASONIC	AK-HRP1000	I0TUA0014	\$2,950.00	CAGP
N001670	Camera Controller	PANASONIC	AWRP150G	H9TRB0097	\$4,005.00	CAGP
N010741	PANEL, CONTROLLER	PESA	TOUCH72	653436A19470283	\$4,821.00	CAGP
N010742	PANEL, CONTROLLER	PESA	SMART32	653372B19500423	\$3,098.00	CAGP
N010743	PANEL, CONTROLLER	PESA	SMART32	653372B19470417	\$3,098.00	CAGP
N010744	PANEL, CONTROLLER	PESA	SMART32	653372B19470422	\$3,098.00	CAGP
N010745	PANEL, CONTROLLER	PESA	SMART32	653372B19500424	\$3,098.00	CAGP
N001560	PANEL, CONTROLLER	PESA	RCP-XY	651532107270322	\$860.00	CAGP
N007759	PANEL, CONTROLLER	PESA	RCP-XY	651532107270336	\$860.00	CAGP
N001564	PANEL, CONTROLLER	PESA	RCP-XY	651532107270352	\$860.00	CAGP
N010746	PANEL, CONTROLLER	PESA	RCP PNL SVR	653343C19420142	\$1,375.00	CAGP
N010725	Open Gear Frame w/ PROD DAs	Ross	OGXFR	3.0123E+10	\$11,903.00	CAGP
N010726	Open Gear Frame w/ PROD DAs	Ross	OGXFR	3.0123E+10	\$11,903.00	CAGP
N010727	Open Gear Frame w/ PROD DAs	Ross	OGXFR	3.0123E+10	\$6,401.00	CAGP
N010728	Open Gear Frame w/ Multi-Viewer	PESA	OGXFR	3.0123E+10	\$34,671.00	CAGP
				Total CAGP	\$150,039.00	

5090542	UHD Recorder	AJA	KIPROULTRAPL US	4KR103824	\$3,150.00	IAGP
5087555	UHD Recorder	AJA	KIPROULTRAPL US	4KR103051	\$3,054.00	IAGP
5087558	UHD Recorder	AJA	KIPROULTRAPL US	4KR103019	\$3,054.00	IAGP
5087547	UHD Recorder	AJA	KIPROULTRAPL US	4KR103034	\$3,054.00	IAGP
5087596	UHD Recorder	AJA	KIPROULTRAPL US	4KR103052	\$3,054.00	IAGP
5090540	UHD Recorder	AJA	KIPROULTRAPL US	4KR103839	\$3,150.00	IAGP
5090541	UHD Recorder	AJA	KIPROULTRAPL US	4KR103823	\$3,150.00	IAGP
224564	UHD Recorder	AJA	KIPROULTRA	4KR001642	\$3,290.00	IAGP
224575	UHD Recorder	AJA	KIPROULTRA	4KR001661	\$3,290.00	IAGP
0224564	RECRD UHD SSD W/MONITOR	AJA VIDEO SYSTEMS	KI-PRO-ULTRA	4KR001642	\$3,290.00	IAGP
0224575	RECRD UHD SSD W/MONITOR	AJA VIDEO SYSTEMS	KI-PRO-ULTRA	4KR001661	\$3,290.00	IAGP
0224580	RECRD UHD SSD W/MONITOR	AJA VIDEO SYSTEMS	KI-PRO-ULTRA	4KR001663	\$3,290.00	IAGP
2239844	CG Monitor	APPLE		2A621OBTUG0	\$1,196.00	IAGP
2555684	ANALYZER, AUDIO	AUDIO PRECISION	ATS1	45456	\$8,500.00	IAGP
204623	RECORDER, VIDEO	BLACKMAGIC DESIGN	4K EXTREME 3	3306321	\$2,461.00	IAGP
230563	LENS	CANON INC	CN7X17	93812241	\$26,350.00	IAGP
230564	LENS	CANON INC	CN7X17	93812220	\$26,350.00	IAGP
230565	LENS	CANON INC	CN7X17	93812237	\$26,350.00	IAGP

2543016	HD LENS	CANON INC	HJ17EX7.6BIRSE	1311027	\$10,990.00	IAGP
2543017	HD LENS	CANON INC	HJ17EX7.6BIRSE	1311025	\$10,990.00	IAGP
2543018	HD LENS	CANON INC	HJ17EX7.6BIRSE	1310781	\$10,990.00	IAGP
2298532	Monitor Wall Controller	Christie	X20-0808	11079	\$69,250.00	IAGP
2614687	VIDEO WALL, 6X3	CINEMASSIVE DISPLAYS	CMVW6X3LED46V WUNB	IMCS01	\$91,279.00	IAGP
5087564	Chyron Prime UHD CG	ChyronHego	Prime UHD	USX1540619	\$14,833.00	IAGP
227892	DISPLAY UNIT, 27" UHD 4K	DELL INC	P2715QT	CN0X24K1WS20074 L561L	\$519.00	IAGP
2202404	MONITOR, 8.4" VIDEO	DELL INC	BTLH900APJ	B7TWA0712R	\$3,533.00	IAGP
224571	Rack Mount Computer	DELL INC	E33S	DPRSND2	\$1,990.00	IAGP
2584158	SERVER, POWER EDGE	DELL COMPUTER S	4BECWNK1	782NNK1	\$12,000.00	IAGP
2614856	SERVER, RACK MOUNT	DELL COMPUTER S	PRECISION 7910	GPSHN22	\$2,244.00	IAGP
227886	MONITOR, 27" UHD 4K	DELL INC	P2715QT	CN0X24K1WS20074 L684L	\$519.00	IAGP
227887	MONITOR, 27" UHD 4K	DELL INC	P2715QT	CN0X24K1744457361 53L	\$519.00	IAGP
227888	MONITOR, 27" UHD 4K	DELL INC	P2715QT	CN0X24K1WS200741 595L	\$519.00	IAGP
2202513	GENERATOR, SYNC	EVERTZ MICROSYS	5600MSC	1559180089	\$10,026.00	IAGP
2202514	GENERATOR, SYNC	EVERTZ MICROSYS	5600MSC	1559180009	\$7,306.00	IAGP

2555441	VIDEO DISTRI AMPLIFIER	EVERTZ MICROSY S	7700FR-C+7PS	1590170097	\$15,810.00	IAGP
2555442	VIDEO DISTRI AMPLIFIER	EVERTZ MICROSY S	7700FR-C+7PS	1611380047	\$15,810.00	IAGP
2555443	VIDEO DISTRI AMPLIFIER	EVERTZ MICROSY S	7700FR-C+7PS	1611380049	\$10,452.00	IAGP
2555445	VIDEO DISTRI AMPLIFIER	EVERTZ MICROSY S	7700FR-C+7PS	1611380053	\$5,475.00	IAGP
2504200	LENS, PAN-TILT HEAD	FUJI PHOTO FILM	A18X7.6BEMD	410729	\$11,695.00	IAGP
2199957	LENS, REMOTE CONTROL	FUJINON INC	HA18X7.6BEMD	417270	\$14,555.00	IAGP
2203125	LENS, CAMERA TELEVISION	FUJINON INC	XA87X13.2ESM	808539	\$111,470.00	IAGP
2203126	LENS, CAMERA TELEVISION	FUJINON INC	XA87X13.2ESM	808538	\$111,470.00	IAGP
2203399	LENS, CAMERA, TV	FUJINON INC	HA18X7.6BERN	422626	\$12,205.00	IAGP
2507268	LENS, CAMERA	FUJINON INC	HAS18X7.6MB.D SE	418949	\$7,735.00	IAGP
	KARRERA PROD SWITCHER	GRASS VALLEY			\$400,000.00	IAGP
2298365	COMPUTER, DESKTOP	HEWLET T- PACKAR D	Z820	2UA304091 P	\$15,106.82	IAGP
2294826	COMPUTER, DIGITAL	HEWLET T- PACKAR D	Z800	2UA02522Q R	\$7,100.00	IAGP
5087732	MONITOR, WAVEFORM	LEADER ELEC TECH	LV5600	5757407	\$25,235.00	IAGP
5087720	MONITOR, WAVEFORM	LEADER ELEC TECH	LV5600	575436	\$25,235.00	IAGP

5087685	MONITOR, WAVEFORM	LEADER ELEC TECH	LV5600	575412	\$25,235.00	IAGP
5091805	MONITOR, WAVEFORM	LEADER ELEC TECH	LV5600	5577575	\$25,235.00	IAGP
224576	MONITOR, WAVEFORM	LEADER ELEC TECH	LV5490	5437935	\$29,410.00	IAGP
2565888	MONITOR, WAVEFORM	LEADER ELEC TECH	LV5750	4157987	\$6,760.00	IAGP
2543012	MONITOR, WAVEFORM	LEADER ELEC TECH	LV5750	4547320	\$8,802.00	IAGP
2243124	MONITOR, 7" DUAL SCREEN VIDEO	MARSHALL ELEC	VR72P2HDS	1.3581E+1 0	\$2,999.00	IAGP
2202599	MONITOR, 8.4" DUAL SCREEN VIDEO	MARSHALL ELEC	VR842PAFHD	71422	\$4,455.00	IAGP
2614524	TRANSCIVER , 3.0 MULTI- RATE	MULTIDYNE ELEC	HD-3500-RX	5401212- 7/3	\$2,895.00	IAGP
2614649	TRANSCIVER , 3.0 MULTI- RATE	MULTIDYNE ELEC	HD-3500-FRX-ST	0750813- 7/3	\$2,895.00	IAGP
5091862	BASE STATION, DUAL CHANNEL	MULTIDYNE ELEC	SB5B4K1ST2DUB2R 2	113395	\$15,886.00	IAGP
5091892	BASE STATION, SINGLE CHANNEL	MULTIDYNE ELEC	SB5B4K1ST1DUB2R S	113392	\$10,088.00	IAGP
5091910	CAMERABAC K, 4K	MULTIDYNE ELEC	SB5C4K1MX2D5CV VS	113386	\$10,648.00	IAGP
5091895	CAMERABAC K, 4K	MULTIDYNE ELEC	SB5C4K1MX2D5CV VS	113382	\$10,648.00	IAGP
5091883	CAMERABAC K, 4K	MULTIDYNE ELEC	SB5C4K1MX2D5CV VS	113380	\$10,648.00	IAGP
207185	MONITOR, 19" LCD TCHSCREEN	N SYSTEM INC DBA NSI	EXP1910-RL-S-SA	4816-6143	\$2,190.00	IAGP
2242142	ANTENNA, PORTABLE	NUCOMM INC	101780-77Q	333	\$5,100.00	IAGP

2263807	TRANSMITTER, M. W. PORTABLE	NUCOMM INC	80CMTX1E1	8332-003	\$45,000.00	IAGP
2263808	RECEIVER, MICROWAVE PORTABLE	NUCOMM INC	80CMRX361	8332-004	\$26,625.00	IAGP
2298558	CAMERA, DIGITAL	PANASONIC	AK-HC1500G	63A00010	\$16,596.00	IAGP
2202571	MONITOR, VIDEO	PANASONIC	BT-LH1700WPJ	B7TWB4194	\$2,450.00	IAGP
2236769	MONITOR, VIDEO	PANASONIC	BT-LH1700WPJ	G9TWA0658	\$2,594.00	IAGP
2202569	MONITOR, VIDEO	PANASONIC	BT-LH1700WPJ	B7TWB4197	\$2,450.00	IAGP
2202535	MONITOR, VIDEO	PANASONIC	BT-LH1700WPJ	C7TWB4482R	\$2,450.00	IAGP
2202572	MONITOR, VIDEO	PANASONIC	BT-LH1700WPJ	C7TWB4392	\$2,450.00	IAGP
2202566	MONITOR, VIDEO	PANASONIC	BT-LH1700WPJ	C7TWB4393	\$2,450.00	IAGP
2202567	MONITOR, VIDEO	PANASONIC	BT-LH1700WPJ	C7TWB4394	\$2,451.00	IAGP
2202568	MONITOR, VIDEO	PANASONIC	BT-LH1700WPJ	C7TWB4395	\$2,452.00	IAGP
2202567	MONITOR, VIDEO	PANASONIC	BT-LH1700WPJ	C7TWB4477	\$2,450.00	IAGP
2202534	MONITOR, VIDEO	PANASONIC	BT-LH1700WPJ	B7TWB4210R	\$2,450.00	IAGP
2237507	RECORDER, VIDEO	PANASONIC	AJHPX2000P	H9TKC1350	\$23,090.00	IAGP
2296516	CAMERA, DIGITAL	PANASONIC	AK-HC900P	38A00010	\$28,019.00	IAGP
2298422	CAMERA, DIGITAL	PANASONIC	AK-HC1500	63A00009	\$16,596.00	IAGP
2507243	CAMERA, DIGITAL HD	PANASONIC	AK-HC1500G	68A00002	\$23,234.00	IAGP
2203570	RECORDER-REPROD, P2 HD	PANASONIC	AJHPM100	H7TNB0200	\$9,565.00	IAGP
2202437	CAMERA, BOX	PANASONIC	AK-HC1500G	71A00025	\$16,346.00	IAGP
2202439	CAMERA, BOX	PANASONIC	AK-HC1500G	72A00012	\$16,346.00	IAGP

2504299	CAMERA	PANASONI C	AK-HC900P	45A00017	\$34,657.00	IAGP
2504315	LENS, CAMERA, ZOOM	PANASONI C	HA18X7.6BEMD -DSE	410534	\$12,750.00	IAGP
2585413	DISPLAY UNIT, COLOR	PANASONI C	BTLH900AP	EOTWB2176	\$3,644.00	IAGP
3019992	CAMERA, RECORDER	PANASONI C	AJ-HDC27FP	E4THB0015	\$56,101.00	IAGP
3059958	CAMERA	PANASONI C	PAD-HDTC- CAM-SYS	5XA00004	\$44,696.00	IAGP
5082999	Fusion Router	PESA	FUSION57612G MF	653474B195100 09	\$251,030.00	IAGP
5087662	SYSTEM CONTROLLER	PESA	PERC3000	170512Q195001 79	\$4,132.00	IAGP
5087684	SYSTEM CONTROLLER	PESA	PERC3000	170512Q195001 78	\$4,132.00	IAGP
2203477	PANEL, CONTROLLER	PESA	RCPMB2	651762C073100 15	\$1,425.00	IAGP
NONE	PANEL, CONTROLLER	PESA	RCPMB2	651762A025002 40	\$1,425.00	IAGP
NONE	PANEL, CONTROLLER	PESA	RCPMB2	6517620033017 3	\$1,425.00	IAGP
2203480	PANEL, CONTROLLER	PESA	RCPMB2	651762C073100 20	\$1,425.00	IAGP
2264588	SWITCHER, AUDIO	PESA	TIG128128A1	652004R081301 68	\$68,057.00	IAGP
2584009	SERVER, VTRACK SATA EXPANSION	PROMISE TECH	AGO- H1144VC/A	I4SUA7087976	\$13,439.00	IAGP
224573	CAMERA, 4K DIGITAL CINEMA	SONY	PMWF55	102297	\$28,990.00	IAGP
207186	CAMERA, 4K DIGITAL	SONY	PMWF55	102338	\$28,990.00	IAGP
207191	CAMERA, 4K DIGITAL	SONY	PMWF55	102348	\$28,990.00	IAGP
207192	CAMERA, 4K DIGITAL	SONY	PMWF55	102331	\$28,990.00	IAGP
219131	MONITOR, 30" VIDEO	SONY	PVMX300	7000730	\$16,995.00	IAGP
219161	MONITOR, 30" VIDEO	SONY	PVMX300	7000735	\$16,995.00	IAGP

2296354	MONITOR 17" MULTI- FMTLCD	SONY ELECTRONI CS	LMD-1751WCC	3103590S	\$3,650.00	IAGP
2583563	RECORDER, 2 CHANNEL	SOUND DEVICES	702	GQ091008800 2	\$1,875.00	IAGP
2298425	COMPUTER, RACKMOUN T	SUPER LOGICS	SL-2U-P4965G- BA	20620003	\$1,451.00	IAGP
5087714	Rack Mount Computer	Super Logics	SL2ULLQ370M GD	247600132	\$1,014.00	IAGP
2243505	REM CTRL TCH SCRNPANEL	TELEMETRI CS INC	RCP	081103008	\$8,900.00	IAGP
2243506	REM CTRL TCH SCRNPANEL	TELEMETRI CS INC	RCP	081103012	\$8,900.00	IAGP
2583797	RCP TCH SCRN 10.4 RISER MT	TELEMETRI CS INC	RCP-TS-RM	104287143013 7	\$900.00	IAGP
2555769	INTERCOMM STATION	TELEX CORP	90007770000	92145	\$17,700.00	IAGP
2555770	INTERCOMM STATION	TELEX CORP	90007770000	92139	\$17,700.00	IAGP
2242149	HEAD, FLUID	THE VITEC GROUP	34973G	V3996-00397	\$13,499.00	IAGP
2203335	MONITOR, AUDIO	WOHLER TECH	AMP2-S8MDA	91860	\$5,969.00	IAGP
2203336	MONITOR, AUDIO	WOHLER TECH	AMP2-S8MDA	91861	\$5,969.00	IAGP
2214368	MONITOR, AUDIO	WOHLER TECH	AMP2-S8MDA	95937	\$5,411.00	IAGP
2202526	CONTROLLE R, VIDEO/AUDI O	YAMAHA ELEC	CS1D	YAMK01002	\$68,000.00	IAGP
2202527	CONTROLLE R ROUTING MATRIX	YAMAHA ELEC	DSP1DEX	21UCALX010 09	\$20,500.00	IAGP
2202531	SWITCH, ANALOG	YAMAHA ELEC	A08DA8	UCALX01017	\$5,900.00	IAGP
				Total IAGP	\$2,421,767.82	

	SmartView 4K monitor	BLACKMAGIC DESIGN	HDL-SMTV4K12G		\$875.60	Not in Maximo
	SmartView 4K monitor	BLACKMAGIC DESIGN	HDL-SMTV4K12G		\$875.60	Not in Maximo
	SmartView 4K monitor	BLACKMAGIC DESIGN	HDL-SMTV4K12G		\$875.60	Not in Maximo
	SmartView 4K monitor	BLACKMAGIC DESIGN	HDL-SMTV4K12G		\$875.60	Not in Maximo
	SMART TV, 4K, 49 INCH	SAMSUNG	QN49LS03RAFXZA		\$825.00	Not in Maximo
	SMART TV, 4K, 49 INCH	SAMSUNG	QN49LS03RAFXZA		\$825.00	Not in Maximo
	SMART TV, 4K, 49 INCH	SAMSUNG	QN49LS03RAFXZA		\$825.00	Not in Maximo
	SMART TV, 4K, 49 INCH	SAMSUNG	QN49LS03RAFXZA		\$825.00	Not in Maximo
	SMART TV, 4K, 49 INCH	SAMSUNG	QN49LS03RAFXZA		\$825.00	Not in Maximo

**Total Not
in
Maximo**

\$7,627.40

**Total
CAGP**

\$150,039.00

**Total
IAGP**

\$2,421,767.82

**Grand
Total**

\$2,579,434.22