Section 26 09 61
Performance Lighting Controls

TracMe™ & Evolution™ V4

Follow Spot and Musician, Actor, Performer, Presenter, Athlete Synchronized Fixture Tracking Platforms

Revised: 11 November 2024

PART 1 GENERAL

1.1 SECTION INCLUDES

A. TracMe™ and Evolution™ V4 are control platforms that direct audience focus and attention toward musicians, actors, performers, presenters, and athletes in real time.
B. Human operators manage manual and automatic fixture position and attribute adjustment options.
C. Operator workspaces are inclusive and reflect ADA (US), OSHA (US), EEOC (US) and EAA (EU) employment opportunity, safety and accessibility guidelines.
D. Professional grade ANSI E1.11-2018 (DMX512-A) compliant conventional, moving head and moving mirror performance lighting fixtures are supported.
E. A processor/interface links the DMX lighting console, or other compatible control, and the sACN/Art-Net Ethernet entertainment lighting network.
F. Controlled fixtures connect to CAT 5e/6 (or fiber) Ethernet network wiring. Acceptable control protocols are ANSI E1.31-2018 (sACN) and Art-Net.
G. Cameras are also PoE Ethernet connected. Default video protocol is NDI (video over IP).
H. TracMe™ “mouse U/I” platform uses a flat panel display and your choice of USB control devices, plugged directly to a desktop or EIA rack mount processor/interface.
I. Evolution™ V4 “handlebar U/I” platform provides a fluid head tripod w/ encoders & true 3D articulation. A Windows PC consolette,

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pan/tilt encoders, operator handlebar, handgrip attribute sliders, and two 15.6” displays (one touchscreen) are also provided.

1.2 RELATED SECTIONS

A. Section 01 30 00 – Administrative Requirements
B. Section 26 05 00 – Common Work Results
C. Section 26 05 23 – Control Voltage Cabling
D. Section 26 51 13 – Interior Lighting Fixtures
E. Section 26 55 61 – Performance Lighting Fixtures
F. Section 26 09 43 – Distributed Digital Lighting Control

1.3 SUBMITTALS

A. Submissions shall comply with format and content requirements of Section 01 30 00

B. Product and Service Description:
   1. Equipment Bill of Materials.
   2. Riser diagram.
   3. Control wire routing and termination guidelines.
   4. Contractor vs integrator/dealer scope matrix table.
   5. Quick start guide.

C. Project Coordination Drawing Set, where required by Section 4 schedule below:

   1. Provide project specific installation details of DIV 26 electrical contractor supplied line and L/V wiring.

   2. Detail circuit numbering scheme and physical relationship to (interaction with) related control and networking devices.

D. Fixture Output Performance Verification Samples, where required by Section 4 schedule below:

   1. Arrange access to one representative unit of each type and related controls, for instrumented testing.

   2. Arrange access to a professional quality photometer.

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1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: A specialist in manufacturing remote followspot and tracking solutions, with a minimum of ten years documented experience.

B. Spotrack™ authorized performance systems integrator or dealer qualifications:

1. A specialist in engineering, installation, and programming of remote followspot and tracking solutions.
2. Manufacturer empowered, authorized and trained.
3. The provider takes front-line responsibility for required on-site troubleshooting, training, and support services.

1.5 PRE-INSTALLATION CONFERENCE

A. Arrange one (minimum) on-site meeting, before scheduled work begins.

B. Invite Construction Manager, Consultant, Architect, DIV 26 Electrical Contractor and related trades. Agenda includes project schedule, division of responsibilities, and scaffold/lift/access requirements.

1.6 DELIVERY, STORAGE AND HANDLING

A. Retain all packing lists and checked-in equipment inventories.

B. Ensure all equipment is stored in a secure location.

1.7 PROJECT CONDITIONS

A. Ensure all equipment is stored in a clean (dust-free), dry and temperature-controlled indoor environment.

1.8 WARRANTY

A. Manufacturer shall supply a factory bench warranty against defects in materials and workmanship, unless indicated otherwise.

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B. Manufacturer shall maintain a domestic (North American) parts inventory and bench repair capability. (St. Louis MO)

C. Performance systems integrator or dealer may supply other specified on-site diagnostic, training, maintenance, and repair services. Optional requirements are listed by Part 4 schedule below.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. 3D Stage Tracker LTD d/b/a Spotrack™

19 Innishfree Court
Tonaphubble
Co. Sligo F41 V65E
Ireland

B. <Brand Name> sACN and ArtNet networking hardware, as listed by Part 4 schedule below.

C. <Brand Name> camera compatible (or equipped) performance lighting fixtures, as listed by Part 4 schedule below.

D. <Brand Name> sACN, Art-Net, DMX compatible performance, architectural or show control platforms(s), as listed by Part 4 schedule below.

E. Substitutions are not permitted.

2.2 REMOTE FOLLOWSPOT AND TRACKING HARDWARE/SOFTWARE PLATFORMS

A. TracMe™ EIA 1/2U

1. ½U size compact desktop processor/interface.
2. Display with mouse, trackball, or other USB compliant U/I.
3. Wide FOV or zoom camera mounted in a fixed yoke or a motorized pan/tilt enclosure.

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4. NDI video network default.
5. Up to 32 fixtures controllable on 4 universes.
6. Performance fixture brand & model agnostic.

B. TracMe™ EIA 1U

1. 1U EIA rack mount fast processor/interface.
2. Display with mouse, trackball, or other USB compliant U/I.
3. Wide FOV or zoom camera mounted in a fixed yoke or a motorized pan/tilt enclosure.
4. NDI video network default
5. Synchronized fixture tracking requires calibration once.
6. Up to 256 fixtures controllable on 10 universes.
7. Performance fixture brand & model agnostic.

C. TracMe™ EIA 2U

1. 2U EIA rack mount faster processor/interface.
2. Display with mouse, trackball, or other USB compliant U/I.
3. Two wide FOV or zoom cameras mounted in fixed yokes or motorized pan/tilt enclosures. Allows automatic wide/narrow camera switching and attribute adjustment.
4. NDI video network default.
5. Synchronized fixture tracking requires calibration once.
6. Up to 256 fixtures controllable on 10 universes.
7. Performance fixture brand & model agnostic

D. Evolution™ V4

1. Fluid tripod head w/ encoders and true 3D articulation.
2. Windows PC consolette with pan/tilt encoders, and touchscreen parameter sliders.
3. Hands-on, manually manipulated handlebar U/I.
4. Two 15.6 displays. (control touchscreen & camera video).
5. User selectable touchscreen attribute fader quantity and assignment.
6. AIDA X20 optical zoom cameras allow automatic wide/narrow camera attribute adjustment.
7. NDI is PoE video network default.
8. Each On Board camera equipped master fixture can direct between one and eight slave fixtures.
9. Fixture tracking requires one-time calibration.

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10. Performance fixture brand & model agnostic.

E. Spotrack™ Firmware and Software

1. Calculates focus. pan & tilt, dimmer, iris, and zoom settings. Dynamically manages beam size, shape, and intensity attributes.
2. Support for manual or automatic attribute management.
3. Provides manual override capability, with no dependance on wireless RF or IR network technology.
4. Supports seamless fixture or attribute control exchange with the performance console.
5. Supports comms and text exchange with the console operator.
6. Calibration is AI assisted, straightforward, and a one-time exercise.
7. Professional grade fixtures do respond better than slower/cheaper commodity grade alternatives.

2.3 AIDA NDI DIGITAL CAMERAS, MOUNTS AND OPTIONS

A. AIDA NDI cameras are available in wide FOV and zoom models. Fixed lenses are replaceable, with your choice of focal length options. Two zoom models are available, 30 – 120 degree manual and 20X optical.

B. Zoom cameras help manage long distance, multiple target and tight focus requirements. NDI network protocol unlocks additional platform features.

C. Options

1. By default, cameras connect to a NDI network with PoE power.
2. Lens focal length options available.
3. Outdoor IP rated options available.

D. Transfer and Upgrade

1. On Board cameras may be removed from ageing, outdated, or damaged fixtures.
2. On Board cameras may be installed on replacement or upgrade fixtures.

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E. Camera Type, Quantity and Accessories

1. As listed by Part 4 schedule below.

2.4 DMX, sACN, ArtNet & NDI NETWORK BACKBONES

A. Controls and nodes are 100% compliant with ANSI E1.31 streaming sACN), Art-Net and NDI protocols.

B. Reliance on any form of IR, UWB RF, Bluetooth, Wi-Fi or wireless transponder technology is unacceptable.

C. CAT 5e/6 Ethernet cabling is Belden #21420061 or equal. Installed wiring is color-coded blue.

D. CAT 5e/6 RS-485 cabling is Belden #24120041 or equal. Installed wiring is color-coded yellow.

E. RS-485 controls and devices are 100% compliant with ANSI E1.11-2018 (DMX) protocols.

2.5 PERFORMANCE LIGHTING FIXTURES

A. TracMe™ and Evolution™ V4 platforms direct and control professional grade ANSI E1.11-2018 (DMX512-A) compliant moving head and moving mirror performance lighting fixtures.

B. Most fixed yoke conventional types supported.

C. Most moving head and moving mirror types supported.

D. Many IP rated (outdoor) types supported.

E. All fixtures with factory OEM or integrator installed On Board camera.

F. All fixtures with integrator furnished StageCam™ or Spotcam™ motorized pan/tilt camera enclosure.

PART 3 EXECUTION

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3.1 INSTALLATION

A. Default on-site services provided by a Spotrack™ authorized performance systems integrator or dealer.

1. System programming
2. System troubleshooting
3. Owner training
4. Additional requirements are listed by Part 4 schedule below.

B. Default on-site installation services provided by a locally licensed DIV 26 electrical contractor. Division or responsibility details appear in Part 1.2 callouts above.

1. Line and L/V electrical conduit.
2. Primary service and circuit protection.
3. Line voltage wire pulls & terminations.
4. L/V wire pulls, terminations and certification (if required).
5. Line voltage testing and troubleshooting.
6. Required permits, licenses, inspections, fees, and insurance.
7. Any other required installation services are listed by Part 4 schedule below.

3.2 FIELD QUALITY CONTROL

A. This section’s provisions apply where Part 4 schedule below requires integrator supplied project management and installation services.

B. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

C. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.

PART 4 EQUIPMENT AND SERVICE SCHEDULE

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<Insert Project Specific Bill of Materials Here>

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