United States District Court,
S.D. California.

CIMCORE CORPORATION, a California corporation, Romer, Inc., a California corporation, Homer Eaton, an individual, and Hexagon Metrology, AB, a Swedish limited liability company,
Plaintiffs.
v.
FARO TECHNOLOGIES, INC., a Florida corporation,
Defendant.
Faro Technologies, Inc., a Florida corporation,
Counterclaimant.
v.
Cimcore Corporation, a California corporation, Romer, Inc., a California corporation, Homer Eaton, an individual, and Hexagon Metrology, AB,
Counterdefendants.

CIV. No. 03CV2355B (WMC)

Oct. 14, 2005.

Brenton R. Babcock, Philip Mark Nelson, Knobbe Martens Olson and Bear, Irvine, CA, for Plaintiffs/Counterdefendants.

Daniel Bruso, Steven M. Coyle, Cantor Colburn, Bloomfield, CT, Richard A. Clegg, Seltzer Caplan McMahon Vitek, San Diego, CA, for Defendant.

Gerald L. McMahon, Seltzer Caplan McMahon Vitek, San Diego, CA, William J. Cass, Cantor Colburn, Bloomfield, CT, for Defendant/Counterclaimant.

SUPERSEDING CLAIM CONSTRUCTION ORDER FOR UNITED STATES PATENT NUMBER 5,829,148

RUDI M. BREWSTER**, District Judge.**

This order supercedes the original claim construction order of November 30, 2004, and the superceding claim construction order of July 11, 2005, and thus constitutes the only superceding claim construction order in this case.

Pursuant to Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996), on November 23-24, 2004, and supplemented on October 3, 2005, the Court conducted a Markman hearing in the above-titled patent infringement action regarding construction of the disputed claim terms for U.S. Patent Number 5,829,148 ("the '148 patent"). Plaintiffs Cimcore Corporation, Romer, Inc., and Homer Eaton (collectively, "Cimcore") were represented by the law firm of Knobbe Martens Olson & Bear, LLP, and Defendant Faro Technologies

("Faro") was represented by the law firm Cantor Colburn LLP.

At the Markman hearings, the Court, with the assistance of the parties, analyzed claim terms in order to prepare jury instructions interpreting the pertinent claims at issue in the '148 patent. Additionally, the Court and the parties prepared a "case glossary" for terms found in the claims and the specification for the '148 patent considered to be technical in nature which a jury of laypersons might not understand clearly without specific definition.

After careful consideration of the parties' arguments and the applicable statutes and case law, the Court **HEREBY CONSTRUES** the claims in dispute in the '148 patent and **ISSUES** the relevant jury instructions as written in Exhibit A, attached hereto. Further, the Court **HEREBY DEFINES** all pertinent technical terms as written in Exhibit B, attached hereto. This order supercedes and replaces all previous orders construing the claims of the '148 patent.

IT IS SO ORDERED.

DATED:

EXHIBIT A

UNITED STATES PATENT NUMBER 5***.829.148-CLAIM CHART***

VERBATIM CLAIM LANGUAGE	***COURT'S CLAIM CONSTRUCTION***
Claim 1	
An articulated spatial coordinate measuring arm which comprises:	An ***articulated spatial coordinate measuring arm*** [*an arm with a plurality of transfer members connected by a series of joint assemblies terminating in a probe used for measuring three-dimensional objects*] which ***comprises*** [*must include but not limited to*]:
a supporting base;	a ***supporting base*** [*a component on which the spatial coordinate measuring machine ("CMM") arm rests*];
a proximal transfer member having a proximal end and a distal end;	a ***proximal*** [*closest to the supporting base*] ***transfer member*** [*a component of the coordinate measuring machine ("CMM") having two ends and a known length between those ends, rigid along a longitudinal axis of the component*] having a ***proximal*** end [*nearest to the base*] and a ***distal*** [*furthest from the base*] end;
an intermediate transfer member having a proximal end and distal end;	an ***intermediate transfer member*** [*a transfer member between the transfer member closest to the base and a transfer member furthest from the base*] having a ***proximal*** end and ***distal*** end;
a distal transfer member having a proximal end and a distal end;	a ***distal transfer member*** [*the transfer member furthest from the base*] having a ***proximal*** end and a ***distal*** end;
a probe having a proximal end and a distal end	a ***probe*** [*a component at the distal end of the articulated arm that facilitates spatial measurement by interfacing with the object to be measured*] having a ***proximal*** end and a ***distal*** end;
a first joint assembly	a first ***joint assembly*** [*a component of the coordinate measuring machine*

swivelingly connecting said proximal end or said proximal member to said base;	*("CMM") that contains at least one joint (a part or collection of parts that allows rotational motion) with its or their associated supporting parts, which connects an end of a transfer member to an end of another transfer member, to an end of the probe, or to the base*] ***swivelingly*** [*permitting one of the components to rotate about a longitudinal axis of the other component*] connecting said ***proximal*** end of said ***proximal*** member to said base;
a second joint assembly swivelingly and hingedly connecting the distal end of said proximal member to the proximal end of said intermediate member;	a second ***joint assembly swivelingly*** and ***hingedly*** [*permitting one of the components to rotate about an axis transverse to a longitudinal axis of the other component*] connecting the ***distal*** end of said ***proximal*** member to the ***proximal*** end of said intermediate member;
a third joint assembly swivelingly and hingedly connecting the distal end of said intermediate member to the proximal end of said distal member; and	a third ***joint assembly swivelingly*** and ***hingedly*** connecting the ***distal*** end of said intermediate member to the ***proximal*** end of said ***distal*** member; and
a fourth joint assembly hingedly connecting the proximal end of said probe to the distal end of said distal member;	a fourth ***joint assembly hingedly*** connecting the ***proximal*** end of said ***probe*** to the ***distal*** end of said ***distal*** member;
wherein at least one of said first, second and third joint assemblies has at least one degree of freedom capable of sweeping through an unlimited arc;	wherein at least one of said first, second and third joint assemblies has at least one ***degree of freedom*** [*rotation about an axis*] ***capable of sweeping through an unlimited arc*** [*able to rotate infinitely along a circular curved path*];
wherein said at least one of said first, second and third joint assemblies comprises at least one multi-contact slip-ring subassembly for transmitting electrical signals therethrough; and	wherein said at least one of said first, second and third joint assemblies ***comprises*** at least one ***multi-contact slip-ring sub-assembly*** [*an electrically conductive part (or series of parts) having multiple points of physical contact (direct or through an intermediary conductive material) with a corresponding conductive part (or series of parts) to provide continuous electrical connection and/or signal transference, even when the parts rotate with respect to each other*] for transmitting electrical signals therethrough; and
wherein each of said first, second and third joint assemblies has an unlimited range of swiveling motion.	wherein each of said first, second and third joint assemblies has an ***unlimited range of swiveling motion*** [*capable of infinite rotation about a longitudinal axis of a component*].

Claim 2	
The arm of claim 1, wherein said electrical signals comprise data reflecting the	The arm of claim 1, wherein said electrical signals comprise data reflecting the ***orientation statuses of joint assemblies*** [*degree*

orientation statuses of joint assemblies more distally located from the base than said at least one of said assemblies.	*of angular rotation of the joint or joints contained in the joint assembly*] more distally located from the base than said at least one of said assemblies.
Claim 3	
An articulated spatial coordinate measuring arm which comprises:	An ***articulated spatial coordinate measuring arm*** which ***comprises:***
a supporting base;	a ***supporting base;***
a proximal transfer member having a proximal end and a distal end;	a ***proximal transfer member*** having a ***proximal*** end and a ***distal*** end;
an intermediate transfer member having a proximal end and distal end;	an ***intermediate transfer member*** having a ***proximal*** end and ***distal*** end;
a distal transfer member having a proximal end and a distal end;	a ***distal transfer member*** having a ***proximal*** end and a ***distal*** end;
a probe having a proximal end and a distal end	a ***probe*** having a ***proximal*** end and a ***distal*** end
a first joint assembly swivelingly connecting said proximal end of said proximal member to said base;	a first ***joint assembly swivelingly*** connecting said ***proximal*** end of said ***proximal*** member to said base;
a second joint assembly swivelingly and hingedly connecting the distal end of said proximal member to the proximal end of said intermediate member;	a second ***joint assembly swivelingly*** and ***hingedly*** connecting the ***distal*** end of said ***proximal*** member to the ***proximal*** end of said intermediate member;
a third joint assembly swivelingly and hingedly connecting the distal end of said intermediate member to the proximal end of said distal member; and	a third ***joint assembly swivelingly*** and ***hingedly*** connecting the ***distal*** end of said intermediate member to the ***proximal*** end of said ***distal*** member; and
a fourth joint assembly hingedly connecting the proximal end of said probe to the distal end of said distal member;	a fourth ***joint assembly hingedly*** connecting the ***proximal*** end of said ***probe*** to the ***distal*** end of said ***distal*** member;
wherein at least one of said first, second and third joint assemblies has a least one degree of freedom capable of sweeping through an unlimited arc; and	wherein at least one of said first, second and third joint assemblies has at least one ***degree of freedom capable of sweeping through an unlimited arc:***
wherein each of said members comprises: an inner tubular shaft having a first end and an opposite second end;	wherein each of said members ***comprises:*** an ***inner tubular shaft*** [*a rotating cylindrical part enclosed within an outer tubular sheath*] having a first end and an opposite second end;
said first end being fixedly attached to a first one of said joint assemblies at a first end of said member;	said first end being fixedly attached to a first one of said joint assemblies at a first end of said member;
an outer tubular sheath co-axially surrounding said inner tubular shaft,	an ***outer tubular sheath*** [*a cylindrical part enclosing or covering an inner tubular shaft*] co-axially surrounding said ***inner tubular shaft,***

and said sheath having a first extremity and an opposite second extremity;	and said sheath having a first ***extremity*** [*end*] and an opposite second ***extremity;***
said second extremity being fixedly attached to a second one of said joint assemblies at a second end of said member opposite said first end;	said second ***extremity*** being fixedly attached to a second one of said joint assemblies at a second end of said member opposite said first end;
a first bearing rotatively mounting said first end of said shaft proximal to said first extremity of said sheath; and	a first ***bearing*** [*a part or collection of parts within a joint or transfer member which supports load and facilitates reduced friction rotation*] ***rotatively mounting*** [*mounting the end so that it may rotate*] said first end of said shaft ***proximal*** to said first ***extremity*** of said sheath: and
a second bearing rotatively mounting said second end of said shaft proximal to said second extremity of said sheath.	a second ***bearing rotatively mounting*** said second end of said shaft ***proximal*** to said second ***extremity*** of said sheath.

EXHIBIT B

GLOSSARY OF TERMS

TERM	*DEFINITION*
Articulated spatial coordinate measuring arm	an arm with a plurality of transfer members connected by a series of joint assemblies terminating in a probe used for measuring three-dimensional objects
Bearing	a part or collection of parts within a joint or transfer member which supports load and facilitates reduced friction rotation
Capable of sweeping through an unlimited arc	able to rotate infinitely along a circular curved path
Comprises	must include but not limited to
Degree of freedom	rotation about an axis
Distal	furthest from the base
Distal transfer member	the transfer member furthest from the base
Extremity	end
Hingedly	permitting one of the components to rotate about an axis transverse to a longitudinal axis of the other component
Inner tubular shaft	a rotating cylindrical part enclosed within an outer tubular sheath

Intermediate transfer member	a transfer member between the transfer member closest to the base and a transfer member furthest from the base
Joint assembly	a component of the coordinate measuring machine ("CMM") that contains at least one joint (a part or collection of parts that allows rotational motion) with its or their associated supporting parts, which connects an end of a transfer member to an end of another transfer member, to an end of the probe, or to the base
Multi-contact slip-ring sub-assembly	an electrically conductive part (or series of parts) having multiple points of physical contact (direct or through an intermediary conductive material) with a corresponding conductive part (or series of parts) to provide continuous electrical connection and/or signal transference, even when the parts rotate with respect to each other
Orientation status of joint assemblies	degree of angular rotation of the joint or joints contained in the joint assembly
Outer tubular sheath	a cylindrical part enclosing or covering an inner tubular shaft
Probe	a component at the distal end of the articulated arm that facilitates spatial measurement by interfacing with the object to be measured
Proximal	closest/nearest to the supporting base
Proximal transfer member	the transfer member closest to the base
Rotatively mounting	mounting the end so that it may rotate
Supporting base	a component on which the spatial coordinate measuring machine ("CMM") arm rests
Swivelingly	permitting one of the components to rotate about a longitudinal axis of the other component
Transfer member	a component of the coordinate measuring machine ("CMM") having two ends and a known length between those ends, rigid along a longitudinal axis of the component
Unlimited range of swiveling motion	capable of infinite rotation about a longitudinal axis of a component

S.D.Cal.,2005.
Cimcore Corp. v. Faro Technologies, Inc.