

Installation Guide:

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Materials

- Topcon TRC NW-400 or Centervue DRS Camera
- K2 Automated Height Adjustable Table (optional)
- Lenovo Computer (optional) preconfigured by Welch Allyn
- RetinaVue Network Installation Kit
 - Eight (8) 4" black zip ties
 - o Ethernet to USB adapter
 - Two (2) Welch Allyn RetinaVue Network Labels
 - Orange Cross-over cable (5')
 - Blue Ethernet cord (10')
 - o Lens cleaning kit (spray and cloth)
 - RetinaVue Quick Start Guide DRS or Topcon, as applicable
 - o RetinaVue Network Installation Guide (this document)
 - o One bottle 0.5% tropicamide
 - o Dilation Procedure
 - One box of post-mydriatic spectacles
 - One RetinaVue poster
 - One 8 GB or greater USB Flash Drive (Topcon Only)



Installation Procedure

	Contact Wolch Allyn Bating)/up technical support (800/E2E 6662) and inform them that you
1	Contact Welch Allyn RetinaVue technical support (800/535.6663) and inform them that you
1	have arrived on site. Ask the Welch Allyn RetinaVue tech support if the PC has already been
	 preconfigured with the RetinaVue Network software.
-	Meet with the clinic contact to confirm the installation and training schedule (1.5 hours for
2	installation; 2-3 hours of training with operators thereafter). This is important so that the
	clinic can plan accordingly.
	Locate the Camera, PC, Table, and Installation Kit boxes and confirm condition of the
	packages.
	1. Camera box condition
	• Good
	Poor
	Damaged
	Missing
	• N/A
	2. Table box condition
	• Good
	• Poor
	Damaged
	 Missing
3	 N/A
	3. PC box condition
	Good
	Poor
	Damaged
	 Missing N/A
	•
	4. Installation Kit box condition
	• Good
	Poor
	Damaged
	Missing
L	• N/A
4	Move the equipment to the room where the camera is to be installed, as instructed by the
<u> </u>	clinic contact.
5	Talk with the clinic contact to determine the location and orientation in the room that the
	camera setup will be located.
	Unbox and assemble the table so that the power outlet on the table is facing the wall, if
6	possible. Mount the up/down switch on the operator side of the table furthest away from the
Ĩ	wall. Plug the power cable from the base of the table into the wall. Confirm that the table is
	powered on and moves up and down.
7	Unpack the camera and place it on the table. Unpack and place the PC on the table next to the
	camera.
8	Next, use one of the L-shaped power cords that are provided with the table (not the camera)



	to connect the camera to the table power outlet. Run the power cord through the table access
	port. Use the power cord provided with the PC to connect the PC to the table power outlet
	using the adapter provided with the table.
	For the Topcon camera, remove the plastic access cover (opposite side of the camera from
	10the power switch). Locate the USB drive provided with the Installation Kit and plug it into
9	the USB port. Plug the crossover cord provided with the Installation Kit into the Ethernet port
	on the camera. Slide the plastic access cover back on the camera. Connect the other end of
	the crossover cord into the Ethernet port on the PC.
	For the <u>Centervue DRS</u> , plug the crossover cord provided with the Installation Kit into the
10	Ethernet port on the camera next to the power switch. Connect the other end of the
	crossover cord into the Ethernet port on the PC.
11	Power the PC on and follow the install wizard to complete the PC set up.
	Note: Skip this step if wireless connection is being used to reach the internet.
	Plug the USB-to-Ethernet adapter (Installation Kit) into an available USB port on the PC. The
	PC may direct you to install the drivers for the device – do so if prompted. If it does not
12	automatically install the drivers, follow the instructions provided with the Ethernet-to-USB
	adapter to go to the website and download the drivers. Once the drivers are installed, connect
	the Ethernet cord (Installation Kit) to the USB-to-Ethernet adapter. Connect the other end of
	the Ethernet cord to an available Ethernet port in the room.
13	Power the camera on using the switch on the side of the camera.
	Set the camera settings, as follows:
	- For the Centervue DRS camera, press the Tools icon in the top right corner of the
	touchscreen (looks like a screwdriver). This will open the Settings page. Ensure that
	all of the settings match those in the screen shots in Appendix A .
14	- For the Topcon TRC NW-400 camera, press and hold the Setup button in the top right
14	corner for 5-7 seconds. A screen will appear that prompts for a password. Enter the
	camera serial number, which is a 6 digit number found the sticker on the base of the
	camera next to the power switch. Press "Ok". This will open the settings screen and 5
	pages will be available. Ensure that all of the settings match those shown in the
	screen shots in Appendix B .
	Note: If the PC has been preconfigured with the RetinaVue Network software (see Step 1),
15	skip to Step 21.
	On the PC, open My Computer/C Drive. Right click and create a folder on the C drive and
	name it "RetinaVue Network".
	Open a web browser and go to <u>www.welchallyn.com</u> . Confirm that the page loads and that
16	you have internet access. If the page does not load, you will need to work with the clinic
	contact to gain internet access on the PC.
47	Once you have confirmed internet access, enter the following URL address:
17	https://www.retinavue.net/rn_web/installers/rn3_0.zip. Select "Save As" and download the
	Welch Allyn RetinaVue Network installation files into the folder "C:\RetinaVue Network".
18	Right click the zip file that was saved in the RetinaVue Network folder and select "Extract To". Save the installation files to "C:\RetinaVue Network\Installer".
	 Open the "C:\RetinaVue Network\Installer" folder and double click the file "vcredist_x86.exe".
19	Press "Next" on all the prompts until the installation is complete.
20	In the "C:\RetinaVue Network\Installer" folder, double click the file "RetinaVueSetup.msi".
20	in the structure retriever (installer retriever, acable the file file fill viesetup. [1])

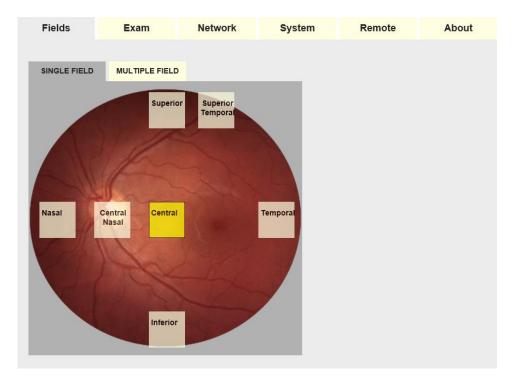


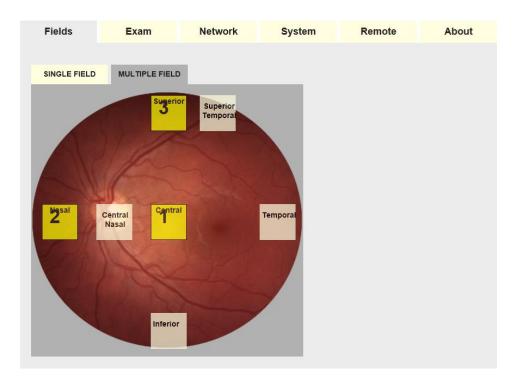
	Press "Next" on all the prompts until the installation is complete.						
21	Now, go to the desktop and double click the RetinaVue Network icon.						
22	Log in to the software. (username: hubble and password: retina).						
23	Contact Welch Allyn support to complete activation of the RetinaVue Network.						
	Confirm that the RetinaVue Network software is in test mode and perform a test exam.						
	1. Added Patient to Camera 🗌 Pass 🗌 Fail						
	2. Camera display works properly 🗌 Pass 🗌 Fail						
24	3. Camera head zeroes X, Y, and Z locations Pass Fail						
24	4. Camera successfully takes and OS and OD image Pass Pail						
	5. Images exported and received by RetinaVue software 🛛 Pass 🗌 Fail						
	6. Exam was able to save successfully Pass Fail						
	7. Exam was able to be submitted successfully Pass Fail						
	Confirm that all wires are properly secured and neat using the zip ties included in the						
25	Installation Kit. Use the white plastic screws provided with the table to secure the zip ties and						
	loose cords to the underside of the table.						
26	Identify where the clinic will store the camera box and move the box to the location.						
20	Location:						
27	Identify where the clinic dumpster is located and dispose of the table boxes.						
	Remove the Welch Allyn RetinaVue Network labels from the Installation Kit. Clean the area						
28	where the labels will be placed on the camera with an alcohol wipe. Remove the wax paper						
	from the back of the label. Place the label on the center of the camera head.						
29	Hang the RetinaVue poster provided in the Installation Kit on the wall using tape or thumb						
29	tacks, as directed by the clinic contact.						
30	Perform training using the RetinaVue Network Training Guide (Appendix C). Leave the Quick						
50	Start Guide provided with the Installation Kit on the table with the camera.						
31	Confirm primary camera operator contact:						
31	Name: Phone: Email:						
22	Once all training is complete, contact Welch Allyn Support to take the RetinaVue Network						
32	software off test mode.						
22	Complete the Customer Acceptance Form (Appendix D) and return it to the RetinaVue						
33	Operations Coordinator.						



Appendix A CenterVue DRS Camera Settings

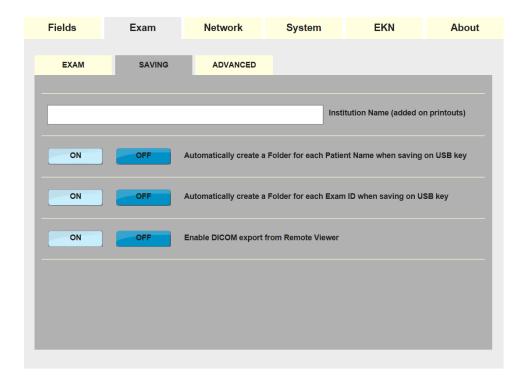








Fields	Exam	Network	System	EKN	About
EXAM	SAVING	ADVANCED			
	40	Seconds to wait betw	een subsequent snap	shots	
0		Seconds to wait betw	een two subsequent s	stereo snapshots	
ME	DIUM	Blinking Fixation			
ENABLE	DISABLE	Automatic chinrest			
UNIFORMITY	CONTRAST	Image Processing Str	rategy		





Fields	Exam	Network	System	EKN	About				
EXAM	SAVING	ADVANCED							
-	DICOM Institution Dept. Name								
	DICOM Study Description								
	DICOM Series Description								
ON OFF Check lenscap presence at exam start									
	2 Exposure Value Default								

Fields	Fields Exam		Network	System	EKN	About
Current ne	twork sta	atus wired network worl	king on ip 10.0.0.2, but	internet not available		
GENI	ERAL	WIRELESS	SHARED FOLDER	LAN ACCESS		
	figure the Autor DH Iress ask way S		ting network. al - 2 55 - 0 - -	Create a new private DRS Leave blank or ent	ATE NETWORK	s password.



Current network status wired network working on ip 10.0.0.2, but internet not available GENERAL WIRELESS SHARED FOLDER LAN ACCESS	Fields	Exam	Network	System	EKN	About				
GENERAL WIRELESS SHARED FOLDER LAN ACCESS	Current network status wired network working on ip 10.0.0.2, but internet not available									
	GENERAL	WIRELESS	SHARED FOLDE	R LAN ACCESS						
WIRELESS CONFIGURATION wireless disabled ENABLE		ed	WIRELESS CO	NFIGURATION						

Fields	Exam	Network	System	EKN	About				
Current network status wired network working on ip 10.0.0.2, but internet not available									
GENERAL	WIRELESS	SHARED FOLDER	LAN ACCESS						
Folder sharing of	f exam images is ENAE	BLED in AUTOMATIC m	node on ON \\10.0.0.1	\exportedimages					
ON	ON OFF enable export of exam images on shared folder								
JPEG	DICOM	PDF Choo	ose file type to export	(only for remote share	ed folder)				
AUTO	MANUAL	images are exported at	utomatically at the end	d of each exam					
INTERNAL	REMOTE	configure a network fo	lder where to save the	images					
	images are saved on: \\10.0.0.1\exportedimages								
configure									



Fields	Exam	Network	System	EKN	About				
Current network status wired network working on ip 10.0.0.2, but internet not available									
GENERAL	WIRELESS	SHARED FOLDER	LAN ACCESS						
ENABLE	DISABLE	Protect remote access	with password						
SET PASS									

Fields	Exam	Network	System	EKN	About		
GENERAL	TIME	BACKUP	PRINTERS	SERVICE	_		
OFF		Screensaver					
ENABLE	DISABLE	Protect access with password (at startup and on screensaver).					
ENABLE		Enable remote HTTP request (required to connect to some third party EMR).					
ENABLE	DISABLE	Dark Mode					



Fields	Exam	Network	System	EKN	About		
	_	_					
GENERAL	TIME	BACKUP	PRINTERS	SERVICE			
Date and Time	AUTO	MANUAL					
Date	2015	August	18				
Time	11	40					
Time Zone	Time Zone (GMT-05:00) Eastern Time (US and Canada)						
Date Format	YYYY-MM-DD	MM-DD-YYYY	D-MM-YYYY				
Time Format	24h	AM/PM					

Fields		Exam	Network	System	EKN	About		
					-			
GENE	RAL	TIME	BACKUP	PRINTERS	SERVICE			
	Re	set Head	Reset head	position				
	Service			Access the HW Controls Panel				
	Remote Assistance			Use this option to open a network connection for remote service assistance.				
	lmag	ge Rebuild		Rebuilds all image thumbnails. Use this if thumbnails are not showed correctly. This operation can take some time.				
	Reset	Parameters	Reset all se	Reset all settings parameters to Factory Settings.				
	Rese	et Patients	Remove all	exam data on this DR	S.			
_								



Appendix B Topcon TRC NW-400 Camera Settings



ixation	Туре	FLICKERING	۲
	SPEED NORMAL(Hz)	1	۲
Fundus Photo	Brightness	7	•
Ilumination Level	Shape(Default)	×	۲
	Shape(Additional)	Not in use	*
Flash Level Adjust	Screen Display	Constant	*
	Stereo	Center	•
	Anterior	Internal	•
	Internal Type	DCM	•
	External Fixation	OFF	*

Fixation	Blink detection level	NORMAL	•
	Color Mode	Normal	*
undus Photo	Flash Level(Default 4.0Ws)	4.0Ws	•
Ilumination Level	Gain(Default 0)	0	
	Peripheral Photo Sequence	Chin Rest Window	•
Flash Level Adjust	Peripheral Photo Pattern	9	•
	Peripheral Photo Fixation Move	Auto	•
	30°Mask Zoom	ON	•





	Cancer		Information
Fixation	Stereo	0	•
	Peripheral	+1	•
Fundus Photo	Anterior	-3	•
Illumination Level	30° Mask	-1	*

For assistance, please contact Welch Allyn Customer Support at 1.800.535.6663, or visit <u>www.welchallyn.com/support</u>.

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ок	Cancel	information
Color	Image Size	L(2576x1934)
	Contrast	96
ColorPreset1	Pivot Point	64
ColorPreset2	White Balance Red	105
	White Balance Green	71
ColorPreset3	White Balance Blue	112
IR	Sharpness	75
	Denoise	10
	Trimming	12
	Trimming (Zoom)	0
	Gamma type	sRGB
	Gamma	0.6000

Color	Name	Preset1	3	
	White Balance Red		0	•
ColorPreset1	White Balance Green		0	
ColorPreset2	White Balance Blue		0	
0.1.0	Gain		0	•
ColorPreset3	Flash Level		0	•
IR				



Cincer		information
Name	Preset2	
White Balance Red	0	•
White Balance Green	0	•
White Balance Blue	0	÷
Gain	0	•
Flash Level	0	•
	White Balance Red White Balance Green White Balance Blue Gain	Name Preset2 White Balance Red 0 White Balance Green 0 White Balance Blue 0 Gain 0

Color	Name	Preset3	
2.1	White Balance Red	0	•
ColorPreset1	White Balance Green	0	•
ColorPreset2	White Balance Blue	0	•
	Gain	0	•
ColorPreset3	Flash Level	0	÷ i
IR			



Color	AutoTargetValue	60	
	GrayValueAdjustmentDampingRaw	400	
ColorPreset1	AutoGainRawUpperLimit	20	
ColorPreset2	AutoExposuerTimeAbsUpperLimit	33355	
	Denoise	10	
ColorPreset3	Sharpness	70	and the local is
IR	ContrastMode	ContrastM	lode_Off 🖌
	ContrastRaw	128	
	PivotPointRaw	65	

AutoAlignment	ON/OFF	ON	•
	Action	Continuous	•
Focus	Timeout(Sec)	20	
Small Pupil	Manual Mode	two cameras	•
Auto Operation	Threshold	0.2	•
Adjust Chin Rest			



AutoAlignment	ON/OFF	ON	
In the second second	Timeout(Sec)	10	*
Focus	One Touch Auto Focus	one time	•
Small Pupil	Adjust Split Detection	ON	
Adjust Chin Rest			

OK			nformation
AutoAlignment	ON/OFF	ON	·
-	Magnification Mode	45° Mask	•
Focus	ACTION	Aperture	•
Small Pupil			
Auto Operation			
Adjust Chin Rest			
	Back page 3/5	Next	



ок	Cancer		nformation
utoAlignment	Auto Shoot Timer(sec)	2	•
	OU Capture	OD->OS	Ţ
ocus	Show Preview	ON	Ţ
imall Pupil	Preview Method	One eye	•
Auto Operation	Preview Timer(sec)	5	÷.
	Check Alignment Result	OFF	Y
Adjust Chin Rest	Check Alignment Timeout	5	•
	AutoShoot	ON	•

	Touch Pupil	Unit Move	-
AutoAlignment	OD/OS Auto Switch	OFF	
ocus	Starting Mode	NormalMode	
Small Pupil			
Auto Operation			
Adjust Chin Rest			



System Setting	Power Save Timer(Min)	15	¥
	Display Brightness	5 👻	se
Date and Time	Packing Mode	Start	
Network	Language	English(US)	٠
	Region Code	TMS	۲
	Reset to default	Reset to default	
	Syslog Severity	5	۲



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System Setting	IP Address	10	0	0	
Date and Time	Subnet Mask	255	255	255	
Date and Time	Default GateWay	0	0	•	
Network	Primary DNS Server	0	0	•	
	Secondary DNS Server	0	0	0	
	IP Address Setting		Fixed add		

Configuration	Mode	DICOM
Standalone		
DICOM		
DICOM Server1	_	
DICOM Server2		
IMAGEnet		
Patient ID Read		
Print		



Configuration	Save Shared Folde	ər		0	FF 1	Verific	cat
Contraction of the	Shared Folder (3	3characters)			Nothi	ng	
Standalone	Shared Folder Use	ar.			Nothir	ng	
DICOM	Shared Folder Pas	ssword			Nothir	ng	
DICOM Server1	File Name	1234567890_2009	0830_1				
	Prefix Digits of	Nothing		Separator			
DICOM Server2	sequence number	3					
	Order1	ID	۲	Order4		Procedure	
IMAGEnet	Order2	Date	۲	Order5		R/L	
Patient ID Read	Order3	Time	٠	Order6		Not Use	
	Picture Format				JPEG Fine	~	
Print	XML Output				Disable	•	

Configuration	WorkList	Enable	*
	Storage (PatientQuery)	Enable	
Standalone	MPPS	Disable	Y
DICOM	StorageCommitment	Disable	•
DICOM Server1	Query/Retrieve	Disable	•
	StorageData Backup	Disable	•
DICOM Server2	NW400 PORT No.	64001	
	NW400 AE Title	RETINACAM	
IMAGEnet	Modality	OP	*
Patient ID Read	SC Modality	OP	•
Print			



Configuration	WorkList Server	-	10.0.0.	1
	WorkList Server PORT No.	104		Verification
Standalone	WorkList Server AE Title	-	RETINAC	AM
DICOM	MWMFilter-AETitle		OFF	•
DICOM Server1	MWMFilter-Modality		OFF	•
	Query/Retrieve Server	-	Nothing	1
DICOM Server2	Query/Retrieve Server PORT No.	0		Verification
IMAGEnet	Query/Retrieve Server AE Title	-	Nothing	1
IMAGENEL				
Patient ID Read				
Print				

ОК	Chest		Information
Configuration	MPPS Server	Nothing	
	MPPS Server PORT No.	0	Verification
Standalone	MPPS Server AE Title	Nothing	
DICOM	Storage Server	10.0.0.1	
	Storage Server PORT No.	104	Verification
DICOM Server1	Storage Server AE Title	RETINACAN	1
DICOM Server2	Transfer syntax	ImplicitVR	•
	Institution Name	Nothing	
IMAGEnet	Station Name	Nothing	
Patient ID Read	Institution Department Name	Nothing	
Print	Instance Number	123	
Fint			



Configuration	PC's Server IP Address	10 1 1 2
Standalone	PC's Server PORT No.	50001 (49152-65535)
DICOM		
DICOM Server1		
	-	
DICOM Server2		
IMAGEnet		
Patient ID Read		
Print		

Configuration	Read Start Position		
Standalone	Number of digits	15	
Standarone	Counter	OFF	•
DICOM	Counter Mode	Continuation	J
DICOM Server1	Counter Data		
	Default ID	Enable	÷
DICOM Server2			
IMAGEnet			
Patient ID Read			
Print			



Configuration	Printer	Canon CP900	÷
Standalone	Sheet Size	L	
	Character X Position	10	
DICOM	Character Y Position	10	
DICOM Server1	Patient ID	ON	•
	Auto Print	OFF	•
DICOM Server2			
IMAGEnet			
Patient ID Read			
Print			



Appendix C RetinaVue Network Training Guide

1. Review the Purpose of the Program:

- Seeking to prevent vision and blindness from diabetic retinopathy
- Diabetes in an epidemic \sim 35% of seniors have diabetes
- One of the most serious complications of diabetes is diabetic retinopathy -> the leading cause of preventable vision loss and blindness among adults
- Like many diseases, if it is detected early, vision loss can be completely eliminated
- Only 30-40% of diabetics get an annual eye exam inconvenient, inaccessible
- We change that paradigm by enabling retinal screenings *in the primary care setting*
- Process is very easy uses a fully automated camera, simple software to acquire images
- From there, the images are transmitted securely to our team of board-certified, fellowship-trained retina experts, who do a complete review & generate a diagnostic report the same day

2. Basic Training:

- 1. Primary keys to success:
 - Properly align the patient in the camera chin on chinrest, forehead firmly against forehead rest, use your hand to press against the back of patient's head
 - ♦ <u>Dilate the patient's eyes</u>
 - a. Turn off the lights and let the patient's eyes dilate a minimum of 5 minutes in the dark.
 5% of patients will not dilate in the dark. 10-12% of seniors will not dilate in the dark.
 - b. OPTIONAL: use a mild dilating drop (0.5%) in each eye, wait 10-15 minutes and image. The patient will be sensitive to light for 20-30 min. Refer to the RetinaVue Dilation Procedure.
- 2. Walk though one complete example, start to finish
 - a. Step 1. Seat the patient; align the table and chair.
 - b. Step 2. Turn off the lights.
 - c. Step 3. Enter patient info into the RetinaVue Network software.
 - d. Step 4. After at least 5 minutes in the dark, acquire images.
 - e. Step 5. Submit the exam.
- 3. Identify the person who will be the primary camera operator, i.e. the operator expected to operate the camera the most. Have them run through the process start to finish at least twice. Once they have acquired and submitted at least twice, have them train the remaining operators.

4. Troubleshooting (bad images) – Refer to the attached Bad Image Guide:

- a. Small pupil (less than 2.6 mm). Resolution = wait longer in the dark or use dilating drop
- b. Discuss cleaning the lens (show example finger print) DO NOT USE RUBBING ALCOHOL. Use the lens cap at all times when not acquiring images.
- c. Blink/eyelashes. Resolution = retake the image and ensure that the patient is properly aligned.

5. Maintenance

a. How to power off the camera (every night)



Appendix D Customer Acceptance Form

This acknowledgement covers (check all that apply):

Topcon TRC NW-400

CenterVue DRS

RetinaVue Network Software

Automatic Height-Adjustable Table

All system components, as noted above, have been installed and are in working order based upon the tests carried out as directed in this procedure.

The system has been installed and tested and found to function normally, but if a problem occurs that is caused by, or related to, customer supplied components, any service charges, including a return site visit and/or remote diagnostics fees due to the problem are not covered under the system warranty.

Table D1: Welch Allyn – System Validation Completed			
Welch Allyn Authorized Representative has validated this system			
Printed Name	Title	Signature	Date (yyyy-mm-dd)
Table D2: Customer accepts System Validation Completed			
Printed Name	Title	Signature	Date (yyyy-mm-dd)
	(Note: Customer signature signifies completion of installation)		
Table D3: Welch Allyn Quality Representative (Final acknowledgements)			
Printed Name	Title	Signature	Date (yyyy-mm-dd)

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Updated 2015-08 723922 DIR 80020394 Version D.

