Canon

imageRUNNER
ADVANCE
C2230 / C2225

Service Guide

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REVISION HISTORY

Revision	Date	Sections	Details
—	January 2013	All	Release of the imageRUNNER ADVANCE C2200 Series Service Guide.
1	March 2013	I, D – Table 5; III, B; X, B	Section I, D: Updated Table 5 – System Accessories to include the correct part number and item name for the Universal Send Advanced Feature Set. Section III, B: Corrected the name of the Universal Send Advanced Feature Set. Section X, B: Updated screen shots.

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I. Product Overview and Configuration

A. Overview

The Canon imageRUNNER ADVANCE C2200 Series consists of the imageRUNNER ADVANCE C2230/C2225. These models bring the following capabilities to users in a low-volume, small or remote office environment:

- Speeds of up to 30 ppm (pages per minute) (LTR, Color and Black-and-White).
- Duplexing document feeder with two-sided color and black-and-white scanning speeds of up to 19.6 ipm (images per minute) at 300 dpi, and 50-sheet capacity.
- Larger 7" full-color WVGA LCD display (640 x 480 pixels), tilting control panel.
- Finishing options, such as an inner finisher, staple finisher, or booklet finisher.
- A maximum paper size of 12" x 18" is supported. Multiple paper sources, including an optional cassette feeding unit, can hold up to 2,170 sheets of paper.
- True 1,200 dpi printing at the engine's rated speed.
- Standard HDD (Hard Disk Drive) Data Erase feature.
- Inter-device link functionality enables imageRUNNER ADVANCE C2200 machines with a network connection to connect to other imageRUNNER ADVANCE host models with an Advanced Box. This enables the imageRUNNER ADVANCE C2200 machine to act as a client, and share the Scan to and Print functions from the Advanced Box of the host imageRUNNER ADVANCE machine. Client imageRUNNER ADVANCE C2200 Series machines can also share remote address books, send and receive fax documents using the Remote Fax function (provided the Remote Fax Kit is installed on the imageRUNNER ADVANCE C2200 Series device).
- RAPID Fusing Technology enables quick warm up times and first copy output times.
- Standard Universal Send and UFR II printing.
- Standard USB memory support. Use the USB memory port to scan or print to a USB memory stick.
- pQ Toner Technology – Oil-free toner that helps to reproduce images more accurately, and improves the evenness of solid black and halftones.
- All imageRUNNER ADVANCE C2200 Series machines are EPEAT (Electronic Product Environmental Assessment Tool) qualified.
- The ability to activate optional software products via the LMS (License Management System). Refer to the LMS section herein for further details.

B. New Features

The imageRUNNER ADVANCE C2200 Series machines offer the following new system, performance, and environmental features:

- Enhanced user authentication capabilities.
- OOXML Scan to PowerPoint support with enhanced authentication for Send.
- Quick startup and high-speed RIP (new controller).
- Energy Saver LED key and improved handling of originals.
- Remote/Auto Shutdown and Weekly Shutdown Timer support.
- Toner signal alarm (pre-toner low alarm and toner bottle count up alarm).
- Faster firmware upgrade time with the Parallel Update feature.
- Ability to duplicate the same settings on one machine, and then install these settings on multiple other machines.
- Use of a temporary data storage function by making a backup in the Service mode.

Table 1 - imageRUNNER ADVANCE C2200 Series Comparison

Feature		imageRUNNER ADVANCE	
		C2230	**C2225**
Print Speed (ppm) (LTR, B&W and Color)		Up to 30	Up to 25
Optimum Copy Volume (copies/prints)		Approximately 2,000 to 7,000	
Scan Speed (LTR, 300 dpi, B&W/Color)	Simplex	Approximately 51 ipm/51 ipm	
	Duplex	Approximately 19.6 ipm/19.6 ipm	
Scan Speed (LTR, 600 dpi, B&W/Color)	Simplex	Approximately 30 ipm/30 ipm	
	Duplex	Approximately 13 ipm/13 ipm	
Double-Pass Duplex Document Feeder		Standard	
Feeder Capacity		Up to 50 sheets (20 lb bond (80 g/m²))	
Resolution	Reading	Up to 600 x 600 dpi	
	Writing	Up to 1,200 x 1,200 dpi	
Maximum Paper Size		12" x 18"	
Maximum Paper Weight		80 lb cover (220 g/m²)	
Paper Capacity	Paper Drawer 1	Up to 640 sheets (17 lb bond (64 g/m²)) Up to 520 sheets (20 lb bond (80 g/m²))	
	Paper Drawer 2	Up to 680 sheets (17 lb bond (64 g/m²)) Up to 550 sheets (20 lb bond (80 g/m²))	
	Multi-Purpose Tray	Up to 100 sheets (20 lb bond (80 g/m²))	
Multiple Copies		1 to 999 sheets	
Printer Memory		2 GB	
Hard Disk Drive		160 GB	
Warm Up Time (at a room temp. of 68°F (20°C))[1]	From Power ON	Approximately 34 seconds	
	From Sleep Mode	Approximately 10 seconds	
	From the Quick Startup Settings for Main Power Mode[2]	Approximately 7 seconds	
FCOT (First Copy Output Time)	Full Color	Approximately 8.9 seconds	
	B&W	Approximately 5.9 seconds	
Power Consumption	Maximum	Approximately 1.5 kW	
	In the Sleep Mode	Approximately 0.8 W	
	Quick Startup Settings for Main Power Mode is 'Off'	Approximately 0.19 W	
	Quick Startup Settings for Main Power Mode is 'On'	Approximately 0.45 W	
Power Requirements		120 V/7.5 A	
Plug Type		NEMA 5-15P	

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1   Activation time may vary, depending on the environment and conditions under which the machine is used.
2   Even if the Quick Startup Settings for Main Power mode is set to 'On', the Warm-Up time may be longer, depending on the conditions under which the machine is used.

Table 1 – imageRUNNER ADVANCE C2200 Series Comparison Continued

Feature		imageRUNNER ADVANCE	
		C2230	C2225
Toner Yield (at 5% Coverage (LTR))	Black	Approximately 23,000 pages	
	Color (CMY)	Approximately 19,000 pages	
Drum Yield (LTR)	Black[3]	Approximately 56,000 pages	Approximately 48,000 pages
	Color (CMY)[4]	Approximately 51,000 pages	Approximately 44,000 pages
Copy		Standard	
Store	Mail Box	Not Available	
	Advanced Box	As a client only	
	Memory Media Support	Standard (USB)[5]	
Print	UFR II	Standard	
	PCL	Optional with the PCL Printer Kit-AT1	
	Direct Print	Standard (JPEG, TIFF)	
		Optional (PDF/XPS) with the Direct Print Kit (for PDF/XPS)-H1	
	Adobe PS (PostScript)	Optional with the PS Printer Kit-AT1	
	imagePASS (External)	Not Available	
Send	Universal Send	Standard	
	PDF High Compression	Standard	
	PDF Advanced Feature Set	Optional[6]	
	PDF Security Feature Set	Optional[7]	
	PDF Digital User Signature	Optional	
Fax	Single Line	Optional w/Super G3 FAX Board-AH2	
	2nd Line	Optional w/Super G3 2nd Line Fax Board-AH1	
	Remote Fax	Optional w/Remote Fax Kit-A1 (As client only)	
Network		Standard Ethernet 10Base-T/100Base-TX/1000Base-T	
		Optional Wireless LAN w/Silex Wireless Bridge	
Remote UI		Standard	
MEAP Capability		Standard	
AMS (Access Management System)		Standard	

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3   Based on 30% color ratio and LTR size paper.
4   Based on 100% color ration and LTR size paper.
5   The optional Multimedia Reader/Writer adds support for SD Card, Compact Flash, Memory Stick, and Micro Drive.
6   Includes Searchable PDF/XPS, Trace & Smooth PDF, and PDF with Adobe Reader Extensions format support.
7   Includes Digital Device Signature (PDF/XPS) and Encrypted PDF modes.

C. Main Unit Box Contents

Note: The box contents shown below are for *reference purposes only*, and are subject to change without notice.

Table 2 – imageRUNNER ADVANCE C2200 Series Box Contents

Contents	imageRUNNER ADVANCE	
	C2230	C2225
Main Unit	✓	✓
Drum Unit Warranty	✓	✓
Before Using This Machine Manual	✓	✓
Setup Guide	✓	✓
Basic Operation Guide	✓	✓
e-Manual	✓	✓
UFR II User Software	✓	✓
imageWARE Enterprise Management Console CD	✓	✓
AMS Kit Software/Manual CD	✓	✓
Features of AMS	✓	✓
Notice for Envelope Attachment for MP Tray	✓	✓
Notice for Paper Type Changes	✓	✓

D. Configuration

Note: All configurations shown are for *reference purposes only*, and are subject to change without notice. Please refer to the Dealer Price List on the ISG Central Web site for the most up-to-date item numbers.

Table 3 – Configuration

Item	Part Number[8]
imageRUNNER ADVANCE C2230 with the optional Cassette Feeding Unit-AF1	
imageRUNNER ADVANCE C2230[9]	5902B002AA
imageRUNNER ADVANCE C2225[9]	5903B001AA

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8   Part numbers are subject to change without notice.
9   Ships standard with one 50-sheet Duplexing Automatic Document Feeder, standard UFR II printing, one 520-sheet and one 550-sheet paper cassette, 100-sheet multipurpose tray, HDD Data Erase, IP Sec, Color Network ScanGear, and drum units.

Table 4 – Hardware Accessories

Item	Part Number[8]
Cassette Feeding Unit-AF1[10]	3755B001AA
Cabinet Type-D[10]	5153B001AA
Staple Finisher-M1 (Includes the Buffer Pass Unit-K1)[11]	5911B002AA
Booklet Finisher-M1 (Includes the Buffer Pass Unit-K1)[11]	5912B002AA
Inner 2Way Tray-F1[11]	3661B001AB
Inner Finisher-F1[11]	5913B001AA
Inner Finisher Additional Tray-A1[12]	3662B001AB
FL Cassette-AM1[13]	3760B001AA
FL Cassette-AR1[14]	5910B001AA
Envelope Feeder Attachment-D1	3665B001AB
Copy Tray-J1	8815A001AB
Utility Tray-A2	3723B002AA
USB Keyboard (Cherry)[15]	1266V426
Universal Keyboard Stand-A1	2212V477
Card Reader Assembly for Universal Keyboard Stand[16]	2212V478
Copy Card Reader-F1[17]	4784B001AA
Copy Card Reader Attachment Kit-B3	3684B003AA
Canon Card Set-A1 (1-30)	4781B001AA
Canon Card Set-A2 (31-100)	4781B002AA
Canon Card Set-A3 (101-200)	4781B003AA
Canon Card Set-A4 (201-300)	4781B004AA
Canon Card Set-A5 (301-500)	4781B005AA
Canon Card Set-A6 (501-1000)	4781B006AA
ADF Access Handle-A1	1095B001AA
Braille Label Kit-F1	7518A004AA
Copy Control Interface Kit-A1[18]	3726B001AA
Convenience Stapler-B1	1727V838

8   Part numbers are subject to change without notice.

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10   The Cassette Feeding Unit-AF1 and Cabinet Type-D cannot be installed at the same time.
11   The Staple Finisher-M1, Booklet Finisher-M1, Inner Finisher-F1, and Inner 2Way Tray-F1 cannot be installed at the same time.
12   Can only be used and attached to the Inner Finisher-F1.
13   A 12" x 18" replacement cassette for Paper Drawers 2, 3, and 4.
14   A 12" x 18" replacement cassette for Paper Drawer 1.
15   When installing the USB Keyboard, it is recommended to install the Utility Tray-A2 or Universal Keyboard Stand-A1.
16   Attaches to the Universal Keyboard Stand-A1 for card reader authentication.
17   Requires the Copy Card Reader Attachment Kit-B3.
18   Cannot be installed if the Card Reader-F1 is installed.

Table 5 – System Accessories

Item	Box Part Number[8]	eLAN Number[19]
Super G3 FAX Board-AH2	3780B009AA	–
Super G3 2nd Line Fax Board-AH1[20]	3781B002AA	–
Remote Fax Kit-A1[21]	–	3679B005AA
PCL Printer Kit-AT1	–	5923B005AA
PS Printer Kit-AT1	–	5924B006AA
Direct Print Kit (for PDF/XPS)-H1	–	3674B004AA
Encrypted Secure Print Software-D1	–	1337B011AA
Secure Watermark-B1	–	1082B010AA
Barcode Printing Kit-D1[22]	–	3999B004AA
Web Access Software-H1[23]	–	2738B007AA
Removable Hard Disk Drive Kit-AE1	3791B001AA	–
Universal Send Advanced Feature Set-F1	–	3405B016AA
Universal Send Security Feature Set-D1	–	3406B006AA
Universal Send Digital User Signature Kit-C1[24]	–	1326B013AA
Remote Operators Software Kit-B1	–	4001B004AA
HDD Data Encryption Kit-C3	3717B002AA	–
USB Device Port-E2	5594B002AA	–
Multimedia Reader/Writer-A2[25]	3721B002AA	–
Silex Wireless Bridge SX-2500CG[26]	8034B002AA	–
Document Scan Lock Kit-B1	3840B007AA	–
iR ADV Security Kit-D1 for IEEE 2600.1 Common Criteria Certification Set[27]	5918B002AA	–
Voice Guidance Kit-F2[28]	3681B003AA	–
Voice Operation Kit-C2[28]	3682B004AA	–

8   Part numbers are subject to change without notice.

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19   The eLAN (Electronic License Access Number) is delivered via the CNA (Canon Network Access) Web site.
20   Requires the optional Super G3 FAX Board-AH2.
21   Cannot be installed with the Super G3 FAX Board-AH2.
22   Requires the PCL Printer Kit-AT1.
23   Requires the PS Printer Kit-AT1 or Direct Print Kit (for PDF/XPS)-H1 to print PDF files.
24   SSO-H settings must be enabled.
25   Requires the optional USB Device Port-E2.
26   Replaces the Wireless LAN Board-B2.
27   Includes the HDD Data Encryption Kit-C3. Specified configurations and settings need to be applied to the device to achieve and maintain IEEE 2600.1 Common Criteria Certification. Cannot be used with the Super G3 2nd Line Fax Board-AH1, Multimedia Reader/Writer-A2, Remote Fax Kit-A1, Direct Printer Kit (for PDF/XPS)-H1, Remote Operators Software Kit-B1, or Web Access Software-H1.
28   The Voice Guidance Kit-F2 and Voice Operation Kit-C2 cannot be installed together.

Table 6 – Integrated and imageRUNNER ADVANCE Solutions

Item	Box Part Number[8]	eLAN Number[19]
AA-PROX V2.3 Software Only[29, 30]	–	4164BF13AA
AA-PROX V2.3 NFR Software Only[29, 30]	–	4164BF14AA
AA-PROX V2.3 Starter Package[29, 31]	5105B030AA	–
AA-PROX V2.3 NFR Starter Kit[29, 31]	5105B031AA	–
AA-PROX V2.3 with Workflow Composer and MEAP Connectors[29, 30]	–	5105B036AA
AA-PROX V2.3 with Tracker[29, 30]	–	5105B037AA
Authorized Send Kit V5.1 (1 License)[29]	–	4164BG10AA
Authorized Send Kit V5.1 (10 Licenses)[29]	–	4164BG11AA
Authorized Send Kit V5.1 (100 Licenses)[29]	–	4164BG12AA
Authorized Send Kit V5.1 (1 License NFR)[29]	–	4164BG13AA
AA-PRINT for MFP V1.0 (1 License)[29]	–	4164BG18AA
AA-PRINT for MFP V1.0 NFR (1 License)[29]	–	4164BG21AA
AA-PRINT for LBP V1.0 (1 License)[29]	–	4164BG20AA
AA-PRINT for LBP V1.0 NFR (1 License)[29]	–	4164BG22AA
Universal Login Manager – 1 Device License	3575B372AA	–
Universal Login Manager – 5 Device Licenses	3575B373AA	–
Universal Login Manager – 10 Device Licenses	3575B374AA	–
MiCard PLUS	3575B353AA	–
imageRUNNER ADVANCE Desktop V3.0.1L with 3 Years Software Maintenance	–	4140B397AA
imageRUNNER ADVANCE Desktop V3.0.5L with 3 Years Software Maintenance	–	4140B398AA
imageRUNNER ADVANCE Desktop V3.0.20L with 3 Years Software Maintenance	–	4140B399AA
imageRUNNER ADVANCE Desktop V3.0.10L NFR[32]	–	4140B400AA
imageRUNNER ADVANCE Desktop 1L with 1 Year Software Maintenance Extension[35]	7494A752AA	–
imageRUNNER ADVANCE Desktop 5L with 1 Year Software Maintenance Extension[35]	7494A689AA	–
imageRUNNER ADVANCE Desktop 20L with 1 Year Software Maintenance Extension[35]	7494A751AA	–

8   Part numbers are subject to change without notice.
19   The eLAN (Electronic License Access Number) is delivered via the CNA (Canon Network Access) Web site.

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29   The Jar file can only be attained via download from http://www.canon.com/fau/downloads.
30   Requires a supported RF IDeas pcProx Card Reader.
31   Includes one AA-PROX V2.3 license, an RF IDeas pcProx Card Reader for HID (Human Interface Device) proximity cards, and a HID Proximity Card Set (10 cards). Requires the optional USB Device Port-E2.
32   Licenses expire in one (1) year.

Table 6 – Integrated and imageRUNNER ADVANCE Solutions Continued

Item	Box Part Number[8]	eLAN Number[19]
Workflow Composer with MEAP Connectors V2.2 1L (1 to 4 Licenses)	–	4165B073AA
Workflow Composer with MEAP Connectors V2.2 1L (5 to 19 Licenses)	–	4165B074AA
Workflow Composer with MEAP Connectors V2.2 1L (20 or More Licenses)	–	4165B075AA
Workflow Composer with MEAP Connectors V2.2 1L NFR	–	4165B079AA
imageRUNNER ADVANCE Tracker V1.3.1 1L (1 to 4 Licenses)	–	4148B396AA
imageRUNNER ADVANCE Tracker V1.3.1 1L (5 to 19 Licenses)	–	4148B397AA
imageRUNNER ADVANCE Tracker V1.3.1 1L (20 or More Licenses)	–	4148B398AA
imageRUNNER ADVANCE Tracker V1.3.1 1L NFR	–	4148B407AA
MEAP Connector for SharePoint Server V1.1 (1 Device)[33]	–	4165B036AB
Client Access License for imageWARE Document Server V2.0 5CAL	–	4143B046AB
Client Access License for imageWARE Document Server V2.0 20CAL	–	4143B047AB
Client Access License for imageWARE Document Server V2.0 100CAL	–	4143B048AB
Client Access License for imageWARE Document Server V2.0 10CAL NFR	–	4143B049AB
imageWARE Document Server V2.0E 1L with 3 Years Software Maintenance[34]	–	4143B039AB
imageWARE Document Server V2.0E 1L NFR	–	4143B045AB
imageWARE Document Server 1L with 1 Year Software Maintenance Extension[35]	7494A696AA	–
imageWARE Document Server V1.1 1L and DT 5L with 1 Year Software Maintenance Extension[35]	7494A766AA	–
imageWARE Scan Manager DS V1.1E 1L with 3 Years Software Maintenance[34]	7494A698AB	–
imageWARE Scan Manager DS V1.0/1.1 EFS 1L with 1 Year Software Maintenance Extension[35]	7494A699AA	–
imageWARE Scan Manager DS V1.1E 1L NFR[36]	7494A700AB	–

8   Part numbers are subject to change without notice.
19 The eLAN (Electronic License Access Number) is delivered via the CNA (Canon Network Access) Web site.

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33 Workflow Composer must be installed. Does not come with software maintenance.
34 Ships standard with three year software maintenance.
35 Software Maintenance Extensions can be purchased and registered up to 5 years in advance.
36 Dealers can purchase up to three NFR packages per showroom.

Table 7 – Supplies and Consumables

Item	Part Number[8]
GPR-36 Black Drum Unit	3786B004BA
GPR-36 Cyan Drum Unit	3787B004BA
GPR-36 Magenta Drum Unit	3788B004BA
GPR-36 Yellow Drum Unit	3789B004BA
GPR-36 Black Toner	3782B003AA
GPR-36 Cyan Toner	3783B003AA
GPR-36 Magenta Toner	3784B003AA
GPR-36 Yellow Toner	3785B003AA
Stamp Ink Cartridge-C1	1857B001AA
Stamp Unit-B1	1858B001AA
Staple-J1[37]	6707A001AC

8   Part numbers are subject to change without notice.

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37   Used for corner and double stapling only. Contains three cartridges per case and 5,000 staples per cartridge.

II. Hardware Accessory Options

A. Cassette Feeding Unit-AF1

- Provides two additional paper drawers with a total capacity of up to 1,100 sheets (20 lb bond (80 g/m^2)).
- Supports paper sizes up to 12" x 18" (from 16 lb bond to 60 lb cover (60 to 163 g/m^2)).
- No support for coated or tab paper, or double-feed detection.
- Cannot be installed with the Cabinet Type-D.

B. Cabinet Type-D

- Used to adjust the height of the device, and it provides space to store toner or paper.
- Can only be used with the standard paper-feeding configuration.

C. Envelope Feeder Attachment-D1

Installs in Paper Drawer 2, and feeds up to 50 envelopes (or envelopes stacked to approximately 1 1/4" (30 mm) in height).

D. Staple Finisher-M1

- Contains two trays, which hold approximately 3,000 sheets.
- Can corner or double staple approximately 30 sheets of paper (LTR, 20 lb bond (80 g/m^2)).
- Cannot be installed with the Booklet Finisher-M1, Inner Finisher-F1, or Copy Tray-J1.

E. Booklet Finisher-M1

- Contains two trays, which hold approximately 3,000 sheets.
- Can corner or double staple approximately 30 sheets of paper (LTR, 20 lb bond (80 g/m^2)).
- Can saddle stitch up to 16 sheets (64 pages) in LTRR, LGL 11" x 17", and 12" x 18" paper sizes.
- Cannot be installed with the Staple Finisher-M1, Inner Finisher-F1, or Copy Tray-J1.

F. Inner Finisher-F1 and Inner Finisher Additional Tray-A1

- The Inner Finisher-F1 has a compact footprint and provides one tray for corner and double stapling up to 50 sheets, and can hold approximately 750 sheets of output.
- The optional Inner Finisher Additional Tray-A1 provides a second tray to the inner finisher for output. The output is split between the two trays for a total output capacity of up to 450 sheets (up to 100 sheets in the upper tray, and up to 350 sheets in the lower tray).
- Cannot be installed with the Staple Finisher-M1, Booklet Finisher-M1, or Inner 2Way Tray-F1.

G. Inner 2Way Tray-F1

- Connects to the main unit as an output tray for prints.
- When the Inner 2Way Tray is attached, prints can be delivered to both the main tray of the machine and the Inner 2 Way Tray.
- The Inner 2Way Tray holds approximately 100 sheets and the main tray can hold approximately 250 sheets for a total capacity of 350 sheets.
- The Inner 2Way Tray cannot be used with the Inner Finisher-F1, Staple Finisher-M1, or Booklet Finisher-M1.

H. Copy Tray-J1
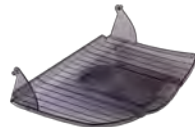
- Connects to the right side of the main unit, and has a total capacity of up to 100 sheets.
- Cannot be used with the Staple Finisher-M1 or Booklet Finisher-M1.

I. Card Reader-F1

- Supports up to 1,000 departments or users.
- Performs Department ID Management automatically. Users must insert a control card to access the machine.
- Requires the optional Copy Card Reader Attachment Kit-A2.

III.   System Options

The functionality of the imageRUNNER ADVANCE C2200 Series can be expanded by installing the following system related optional accessories.

A. Copy and Print Options

1.   PCL Printer Kit-AT1

- Supports the PCL5e/6 emulation printing solutions.
- Supports printing in true 1,200 x 1,200 dpi resolution with the Canon PCL6 Printer Driver.
- Requires license activation via the LMS.

2.   PS Printer Kit-AT1

- Supports the PostScript 3 printing solution.
- Required to print PDF, PS, and EPS files stored in memory media or the Advanced Box of another imageRUNNER ADVANCE machine on the network.
- No additional memory is required.
- Supports printing in true 1,200 x 1,200 dpi resolution.
- Requires license activation via the LMS.

3.   Barcode Printing Kit-D1

- Provides the ability to print 1D and 2D barcodes on output.
- Requires the PCL Printer Kit-AT1.
- Requires license activation via the LMS

4.   Direct Print Kit (for PDF/XPS)-H1

- Enables the user to print PDF and XPS files directly from the Remote UI.
- Users can also print PDF files from memory media and the Advanced Box.
- Requires license activation via the LMS.
- If the PS Printer Kit-AT1 is being used, the Direct Print Kit is not required.

5.   Secure Watermark-B1

- Enables the user to embed hidden text in the background of copies. The embedded text becomes visible when copies of the document are made on a copier.
- Requires license activation via the LMS.
- Cannot be used with the Document Scan Lock Kit-B1.

B. Universal Send and Fax Options

1. Universal Send Advanced Feature Set-F1

- Enables the user to make Trace & Smooth PDF and Adobe Reader Extensions PDF files.
- Requires license activation via the LMS.

2. Universal Send Security Feature Set-D1

- Enables the user to encrypt PDF and Digital Device Signature PDF/XPS files, as well as set a password to send them safely to a file server or e-mail address.
- Enables the recipient of a PDF or Digital Device Signature PDF/XPS file to verify which device scanned the file.
- Requires license activation via the LMS.

3. Universal Send Digital User Signature Kit-C1

- Enables the user to add a digital user signature obtained from a certificate authority to a PDF or XPS file. This enables the recipient of a PDF or XPS file to verify which user signed it.
- Requires license activation via the LMS.

4. Super G3 FAX Board-AH2

- Provides a single line to send and receive fax documents.
- Documents that have been created in applications can also be sent directly from a computer via a network.

5. Super G3 2nd Line Fax Board-AH1

- Provides two lines to send and receive fax documents.
- Requires the Super G3 FAX Board-AH2.

6. Remote Fax Kit-A1

- Enables the user to share the Fax function, if there is an imageRUNNER ADVANCE machine (with the Remote Fax Kit installed) and another imageRUNNER ADVANCE machine (that has the Super G3 FAX Board-AH2 installed), on the same network.
- If the above condition is true, then fax documents can be sent and received remotely between the two machines.
- The Remote Fax Kit-A1 requires license activation via the LMS.
- The Remote Fax Kit and the Super G3 FAX Board-AH2 cannot be installed together.

C. Connectivity Options

1. **Web Access Software-H1**

   - Enables the user to view Web pages from the touch panel display of the machine.
   - If PDF files are registered on the Web page, the user can print them from the machine without using a computer. Moreover, if a Web page or special content is created, and then registered as a PDF file, the Web page or special content can be shared with other users.
   - To print PDF files from Web pages, the optional PS Printer Kit or Direct Print Kit (for PDF/XPS) must be installed.

2. **Remote Operator's Software Kit-B1**

   - Enables the user to access the machine's control panel and specify settings or process jobs from a computer (located on the same network as the machine) remotely.
   - Requires license activation via the LMS.

3. **USB Device Port-E2**

   Adds two USB ports to the machine so a third-party card reader or the optional Multimedia Reader/Writer-A2 can be used for additional media support.

4. **Multimedia Reader/Writer-A2**

   - Enables the user to use SD, Compact Flash, Memory Stick, and Micro Drive memory media for direct print and scan to store operations.
   - Requires the optional USB Device Port-E2.

D. Data Security and Wireless Options

1.   Encrypted Secure Print Software-D1

- Enables the user to encrypt print data sent from a computer by using the Secured Print function, and then decrypt it at the device.
- Requires license activation via the LMS.

2.   iR-ADV Security Kit-D1 for IEEE 2600.1 Common Criteria Certification Set

- Enables the user to configure security settings that are required to comply with the IEEE 2600.1 standard.
- Includes the IEEE 2600 License Certificate, Bootable CD with certified system software, IEEE 2600 User Manual CD, Installation Manual, and HDD Data Encryption Kit.
- Cannot be used with the Super G3 Fax Board (1st and 2nd lines), Direct Print Kit, Remote Operators Software Kit, Web Access Software, Multimedia Reader/Writer, and some MEAP applications.

3.   Silex Wireless Bridge SX-2500CG

- Replaces the Wireless LAN Board-B2.
- Enables 10/100BASE-TX wired devices to operate in 802.11b/g wireless LAN networks.

4.   HDD Data Encryption Kit-C3

Encrypts all image data and device settings before storing them on the hard drive.

🤚IMPORTANT

Installing the HDD Data Encryption Kit (after the machine is installed and operational), requires the machine's system software to be updated. This reformats the entire hard drive, and all data previously stored on the hard disk drive is deleted. Accordingly, it is strongly recommended that all of the data stored on the hard disk drive of the machine be backed up prior to installing the HDD Data Encryption Kit.

5.   Removable HDD Kit-AE1

- Enables the hard disk of the machine to be physically removed while the machine is unattended or not in use.
- Provides a layer a data security for government agencies and corporate enterprises who need to ensure that the data stored on the hard disk is physically secured when the machine is no longer in use.
- Includes a carrying case and a key to enable easy removal and storage.

6. Document Scan Lock Kit-B1

- Enables the user to embed hidden user information or copy restriction information in the output when documents are copied or printed.
- Enforces the policies written to track information embedded in the document to prevent users from performing restricted tasks, such as copying, sending, scanning, or storing specific documents (Scan Lock function), and identifies the user that output the document (Tracking function).
- Requires license activation via the LMS.
- Cannot be used with the optional Secure Watermark-B1 and the Job Hold function.

E. Accessibility Options

1. Voice Guidance Kit-F2

Provides visually impaired users to hear voice navigation instructions when operating the machine.

2. Voice Operation Kit-C2

- Provides visually impaired users to hear voice navigation instructions when operating the machine.
- Includes a voice recognition function, which enables the user to set various functions of the machine by using their own voice.

3. ADF Access Handle-A1

Attaches to the Automatic Document Feeder to enable seated users to open the document feeder.

IV. Document Storage Capabilities

The imageRUNNER ADVANCE C2200 Series machines offer three built-in storage methods with flexible linkage to external systems for storing scanned documents and accessing stored files.

- Advanced Box Client
- Network
- Memory Media

IMPORTANT

- Canon U.S.A., Inc. is not responsible for any damages caused to user data that is stored on the hard disk drive of the machine. It is the customer's responsibility to create and maintain a data back up plan. Canon U.S.A., Inc. offers several security options to enhance document handling and storage security needs. See "System Options," on p. 15.
- It is strongly recommended to back up the data stored on the hard disk drive.

A. Advanced Box Client

If an imageRUNNER ADVANCE C2200 Series device is using the Inter-Device Link, it can be used as an Advanced Box Client, and connect to the Advanced Box of another imageRUNNER ADVANCE device (host device). Client devices can connect to the Advanced Boxes of up to 20 registered host devices to print JPEG, TIFF, or PDF files, or store scanned documents.

The Advanced Box is a storage area in the host machine that stores scanned documents and Microsoft Office files that can be used on a computer. There are two types of storage in the Advanced Box: the Shared Space and the Personal Space.

For a client device to access the Advanced Box of the host device, the Advanced Box must be opened to the public as an SMB (Server Message Block) server or WebDAV (Distributed Authoring and Versioning) server. This enables the user to access the Advanced Box from a computer, and store and share files in their native format, such as MS Word, Excel, and PowerPoint. To view and print these native format files from the Advanced Box, the user must access them via a computer.

IMPORTANT

It is strongly recommended to protect the Advanced Box folders from viruses. If the user's computer system has an antivirus system in place, add the Advanced Box folders to its list of folders to scan and protect.

B. Network

The imageRUNNER ADVANCE C2200 Series machines are equipped with a collaboration function that enables them to be connected to other imageRUNNER ADVANCE machines via the SMB/WebDav protocol. When one machine is connected to another machine, a user can select an Advanced Box in the other machine (if it is on the network) to store files or print a file that is stored in the other machine on this machine.

C. Memory Media

Scan to USB memory media support is standard on the imageRUNNER ADVANCE C2200 Series machines. Users can attach a USB memory stick to the USB port to scan and store documents in the PDF, JPEG, or TIFF file format. Users can also print files stored in the memory media from an imageRUNNER ADVANCE C2200 Series machine at any time with the desired print settings.

The optional Multimedia Reader/Writer-A2 is required to access other types of media, such as SD card, SDHC card, Compact Flash card, and Microdrive memory media. For more information, see <u>"Multimedia Reader/Writer-A2,"</u> on p. 17.

System Administrators can also restrict scanning to and printing from memory media independently to safeguard sensitive and confidential information.

V.   Security Features

The imageRUNNER ADVANCE C2200 Series machines include a comprehensive set of security features, such as Device Authentication, Data Security, Document Security, and Network Security.

A. Device Authentication

There are two ways to authenticate users at the device: via Department ID Management and SSO-H (Single Sign-On H).

1.   Department ID Management

Register a Department ID and password for each department, and manage the machine by limiting its use to only those who enter the correct Department ID and password. Department IDs and passwords for up to 1,000 departments can be registered. Use Department ID Management to keep track of the copy, scan, and print totals for each department.

2. SSO-H

A user authentication system that enables the functions of the machine and MEAP applications to be used by a user after being authenticated once. SSO-H has two compatible user authentication systems (Domain Authentication and Local Device Authentication). Domain Authentication is linked to a domain controller in a Windows Active Directory environment on a network. Local Device Authentication uses a database inside the machine to authenticate users. System Administrators can use one of these two systems or both at the same time.

The AMS (Access Management System) works with the SSO-H login service, and is standard on the imageRUNNER ADVANCE C2200 Series machines. AMS requires that a System Administrator controls and restricts access to the device via a user's device-level login or a function-level login credentials.

Device-Level Login: The System Administrator assigns permissions to users, based on their individual roles (System Administrator, Power User, General User, Limited User, and Guest). Up to 1,000 users can be registered, and users must enter their login credentials at the machine to gain access.

Function-Level Login: The System Administrator assigns users privileges to access specific device functions, such as Copy, Print, Send, and Fax. The user can access the machine, but are restricted to using only certain functions that the System Administrator assigns.

B. Data Security

The imageRUNNER ADVANCE C2200 Series machines offer several ways to protect and secure data. It is strongly recommended that a back up and security system is in place, along with an antivirus protection system to make sure that no data on the hard disk drives are lost, stolen, or compromised.

There are several security methods available from Canon U.S.A., Inc. that appropriately addresses a customer's needs for securing data.

- Customer Accessible HDD Initialization Function (Initialize All Data/Settings) and standard HDD Data Erase Kit
- Optional Document Scan Lock Kit
- imageRUNNER ADVANCE Trusted Platform Module
- Optional Security Kit (HDD Data Encryption Kit)
- Optional Removable Hard Disk Kit

⚠ CAUTION

Canon U.S.A., Inc. is not liable for any damages resulting from the loss or corruption of data. (See "DISCLAIMER," on p. ii for further details.)

1. Initialize All Data/Settings Function

The Initialize All Data/Settings function is a standard function on all Canon devices. This setting is available in the Management Mode, to which the System Administrator must authenticate. Performing this function, erases all user information on the hard disk drive of the machine (e.g., contact information, Advance Box client data, network settings, and image data).

✋IMPORTANT

The Initialize All Data/Settings function deletes the FAT (File Allocation Table) and overwrites the target HDD data area with "0" (zeros) one time.

2.   HDD Data Erase Kit

The standard HDD Data Erase Kit is for environments that require additional data security measures. The HDD Data Erase Kit automatically overwrites image data that is written to the hard drive following each job performed at the machine. Image data is overwritten up to three times with random data, depending on the preferences set by the System Administrator. Other settings for the overwrite kit include the ability to overwrite once with null data and overwrite once with random data.

🤚IMPORTANT

Increasing the amount of times the HDD Data Erase Kit overwrites data, results in a loss of job productivity.

3.   Document Scan Lock Kit

The Document Scan Lock Kit embeds an invisible code over the entire surface of a printed document, which identifies which printer printed the document, and enables the user to track who printed the document. The Document Scan Lock system is tamper resistant, and if someone tries to copy the document, the Document Scan Lock system checks to see if the person has the proper permissions to reproduce it. A password may be required to enable the reproduction of the document. For more information on the Document Scan Lock Kit, see "Document Scan Lock Kit-B1," on p. 19.

4. TPM (Trusted Platform Module)

TPM is a standard security chip (tamper resistant hardware) installed in the imageRUNNER ADVANCE C2200 Series machines. The TPM provides a facility for the secure generation of cryptographic keys, encrypts information stored on the internal HDD, and decrypts information read from the internal HDD. The public keys to encrypt confidential information are securely controlled by the TPM chip, and they can only be decrypted if the TPM releases the associated decryption key. If the HDD is removed from the machine, it will be difficult to retrieve data off that HDD since the encryption key for that data is stored in a separate location within the TPM.

⚠ **CAUTION**

Once the TPM setting is activated, if the end user fails to back up the TPM key, or if the end user loses the TPM key, it may result in permanent, unrecoverable data loss, for which Canon U.S.A., Inc. is not liable. (See "DISCLAIMER," on p. ii for further details.)

✋IMPORTANT
- If the TPM setting is activated and the TPM chip fails, the confidential information stored on the chip can only be recovered if Canon's service representative replaces the TPM chip and restores the original TPM key to the new chip. Immediately, back up the TPM key on a USB memory stick, after the TPM setting is activated.
- Only the System Administrator of the machine can back up the TPM key.
- For security reasons, the TPM key can only be backed up once. Store the USB memory with the back up data in a safe place.
- For the back up of the TPM key, it is recommended that a USB memory stick (supported system file: FAT32) with free space of 10 MB or more is used.
- The TPM seals the hardware components associated with the data, and the data cannot be accessed unless the specific TPM key is issued by the TPM chip. Therefore, setting the TPM mode to 'On', may affect service procedures and service costs (if not handled properly). It is strongly recommended that the System Administrator who has access to the TPM key be present for all service calls to prevent the loss of data and productivity of the machine.

5. **HDD Data Encryption Kit**

The optional HDD Encryption feature is another security tool available for environments requiring additional data security measures, and can be used in conjunction with the HDD Data Erase feature to provide even greater security for data stored on the internal HDD. The HDD encryption chip is Common Criteria Certified (EAL level 3), and applies 256-bit AES (Advanced Encryption Standard) encryption to all data prior to being written on the HDD. This adds an additional layer of security to files stored on the HDD. For more information on the HDD Data Encryption Kit, see

6. **Removable Hard Disk Kit**

The optional Removable Hard Disk Drive Kit provides the capability to physically remove the hard disk drive from the machine so it may be placed in a secure location. The hard disk drive can easily be removed for secure storage on a frequent basis, and can easily be reinstalled for normal machine use. This option provides another layer of data security for government agencies and corporate enterprises that need to ensure that data stored on the hard disk is physically secure when the machine is not in use. For more information on the Removable Hard Disk Drive Kit, see

C. Document Security

The imageRUNNER ADVANCE C2200 Series machines offer several document security modes to protect printed and distributed documents.

1. PDF Visible Digital Signature

The PDF Visible Signatures mode enables the user to view the device signature and user signature on a PDF file. Visible digital signatures and user signatures are displayed on the first page of the PDF file to account for the origin of the document. The System Administrator of the machine can set the Visible Signatures mode for all PDF documents or certain PDF documents created on the machine. This mode differentiates from the Digital Signature mode in that instead of having to access digital signature information from the document properties from the File menu, this information is displayed prominently on the first page of the document in the background, and is printed along with the document data, thereby deterring improper distribution of sensitive documents.

2. Adobe LiveCycle Rights Management ES Server Integration

Adobe LiveCycle enables System Administrators to set automatic document privileges and apply security policies by creating Policy Protected PDF files on the machine, even after document creation, using the Adobe LiveCycle Rights Management ES Server. Once a Policy Protected PDF document is created on the machine with this feature enabled, the PDF extension in Adobe Reader, upon attempt by a user to open a protected PDF, contacts the Rights Management Server to check the latest authorized users, expiration, auditing, and watermarking policies set by the System Administrator. These latest policies are then enforced by that application to ensure the information in that document remains secure.

IMPORTANT

- To generate a PDF linked with Adobe LiveCycle Rights Management ES Server, the Adobe LiveCycle Rights Management ES Server must be licensed, pre-configured by a System Administrator, and the machine must be connected to the Intranet or Internet.
- Encrypted PDF and PDF/A-1b documents are not compatible with Adobe LiveCycle Rights Management ES Server.

D. Network Security

The imageRUNNER ADVANCE C2200 Series machines secure network communications by using IPSec (IP Security), filtering by port number, wireless security, and network port and application control.

1. **IPSec**

   The IPSec protocol is standard on the imageRUNNER ADVANCE C2200 Series machines. It ensures that information and communications over the network remain private by encrypting all inbound and outbound network traffic.

2. **Filtering by Port Number**

   Port number filtering permits or rejects data packets from entering specific port numbers or a range of port numbers. Also, IP address filters to outbound connections can be applied. For example, if functions, such as Remote Copy and Universal Send are used, System Administrators can block or restrict users from sending files to specific IP addresses. This minimizes the risk of data from being sent out of the company to systems that are not trusted.

3. **Wireless Security and Authentication**

   The imageRUNNER ADVANCE C2200 Series machines support IEEE 802.1x and IEEE 2600.1 (optional), which provide port-based authentication and security to WLANs (Wireless Local Area Networks).

   Authentication involves communications between a supplicant, authenticator, and authentication server. The supplicant is authentication software on a client device. The client device (the imageRUNNER ADVANCE C2200 Series machine) needs the supplicant to provide credentials, such as user names/passwords or digital certificates, to the authenticator (a wireless access point). The authenticator then forwards the credentials to the authentication server (generally a RADIUS database) for verification. If the credentials are valid in the authentication server database, the client device is allowed to access resources located on the protected side of the network.

4. **Network Port and Application Access Control**

   Network Port and Application Access Control enables System Administrators to set up only the necessary protocols, such as IPP, FTP, SNTP, SNMP, RAW, LPD, and others for transferring data. These protocols can be switched on and off. The System Administrator can also disable unneeded services, protocols, ports, and the potential paths of attack so that attacks on the machine can be minimized.

VI.   Software Solutions

This chapter describes the optional software solutions that can be purchased to enhance the end user's experience and interaction with imageRUNNER ADVANCE machines. The various software solutions include document management and binding software, scan management, print/output management, device security, and business workflow software.

A. Document Management and Binding Software

1.   **imageRUNNER ADVANCE Desktop**

A client-based device dashboard application to operate document publishing, management, and printing from an end-user's PC. In addition, this desktop application can be used with Canon's new imageWARE Document Server application in cases where customers want to share documents that are managed across workgroups or departments.

2.   **imageRUNNER ADVANCE Quick Printing Tool**

The imageRUNNER ADVANCE Quick Printing Tool is a new standard feature within imageRUNNER ADVANCE Desktop. The Quick Printing Tool enables the end-user to print, fax, convert documents to PDF files, or open PDF documents in Desktop Binder via a drag-and-drop action without needing to open imageRUNNER ADVANCE Desktop. The user can also monitor the status of inbound and outbound print and fax jobs, as well as apply print templates automatically, or preview documents before printing via the Desktop Binder option.

3.   **imageWARE Document Server**

imageWARE Document Server is an office document sharing server application. It connects multiple imageRUNNER ADVANCE Desktop utilities for end-users to collaborate and share information over the network. ImageWARE Document Server provides the following functionalities:

- Document Management
  - Check-in/check-out
  - Version control
  - Full text and index search capabilities
- User Authentication
  - User/group management
  - Simple user access control
  - Full control for System Administrators, such as editing, modifying, and reading documents
- Record a history of who accessed which documents (audit trail)
- Web-based administration tools accessible via Internet Explorer

4.   **imageWARE Scan Manager DS**

imageWARE Scan Manager DS is a document capture solution that features transaction document archiving capabilities, work distribution capabilities that can be personalized according to the scan volume and skill level of each user, and one-step capture, processing, and release operations.

5.   **eCopy PDF Pro Office**

ePPO (eCopy PDF Pro Office) is a network to desktop office scanning solution that enables end-users to create and share PDFs, edit PDF files, and convert PDF files into searchable, editable, and fully-formatted Microsoft Office or Corel WordPerfect files. ePPO also enables the user to tag PDF files for accessibility and Section 508 compliance.

B. Scan Management Software

1. Workflow Composer and Connectors

Workflow Composer enables the user to simplify imageRUNNER ADVANCE workflow processes by customizing multiple-step workflow functions into one-button operations. The one-button operations are available from the Quick Menu of the UI (User Interface). MEAP connectors for SMB (Server Message Block) and FTP (File Transfer Protocol) file delivery, inclusive of document indexing, come standard on the new imageRUNNER ADVANCE models, while connectors for imageWARE Document Server and SharePoint Server 2007 are available as options.

2. Authorized Send

Authorized Send is a MEAP application, which enables walk-up users to distribute documents quickly and securely. Authorized Send is an adaptable solution that integrates and authenticates with a wide variety of authentication servers and enterprise systems using common protocols. Authorized Send permits only authorized users to scan and send documents to e-mail addresses, network file servers/folders, and fax servers. An end-user is able to specify scan settings, such as the paper size, resolution, brightness, and file format.

3. uniFLOW (Scanning)

uniFLOW enables users to capture and compress scanned data, customize workflows for each document type or per user, and archive documents.

4. Cloud Portal for imageRUNNER ADVANCE

imageRUNNER ADVANCE office system end-users have access to Google Docs and Microsoft SharePoint Online cloud services from the machine's UI. End-users can scan hard-copy documents into Google Docs or Microsoft SharePoint Online, as well as print documents stored in these programs. To scan, store, or print documents, users need to log on to the cloud service from the touch panel display of the imageRUNNER ADVANCE machine—no PC or laptop is required.

NOTE:
The Direct Printer Kit (for PDF/XPS)-H1 or PS Printer Kit-AT1 is required.

5. eCopy ShareScan

eCopy ShareScan is an enterprise-ready, office scanning software solution that enables imageRUNNER ADVANCE devices to turn paper documents into digital data that can be edited, managed, and stored electronically.

C. Print/Output Management Software

1. Direct Print & Scan for Mobile

Direct Print & Scan for Mobile is a combination of a MEAP application that runs on an imageRUNNER ADVANCE device and a client mobile application that runs on certain BlackBerry smartphones and Apple iPhone and iPad devices.

The Direct Print & Scan for Mobile application enables users to connect mobile devices to an imageRUNNER ADVANCE machine to print documents, e-mail messages, attachments, and images, as well as load scanned data from the imageRUNNER ADVANCE machine to their mobile device.

NOTE:
The Direct Printer Kit (for PDF/XPS)-H1 or PS Printer Kit-AT1 is required.

2. uniFLOW

uniFLOW is a print/output management solution that can be customized to meet the needs of an organization. uniFLOW offers an organization of any size, a way to track printing and copying costs, secure sensitive documents, and enable users to print from any available printer on the network.

3. AA-PRINT (Advanced Anywhere Print)

The AA-PRINT solution combines Universal Login Manager with secure anywhere printing. It is designed to provide a serverless print environment that enables end-users to print and track usage from anywhere within the network to any connected device by submitting their respective authentication credentials.

4. EFI PrintMe

EFI PrintMe is a cloud-based mobile print solution for the imageRUNNER ADVANCE Series that enables end-users to print electronic files from their mobile devices, such as smartphones, tablets, and laptops to a Canon imageRUNNER ADVANCE device through the EFI PrintMe Cloud Service. Files uploaded to the EFI PrintMe Cloud Server are secured with 128-bit encryption. Walk-up end-users can print documents from the EFI PrintMe Cloud Service to a registered imageRUNNER ADVANCE device that is connected to the Internet.

D. Device Security and Management Software

1. AA-PROX (Advanced Authentication – Proximity Card)

The AA-PROX solution is a login platform that authenticates walk-up end-users to the machine via a registered proximity card or by entering a user name and password. AA-PROX authenticates users against an Active Directory or local user database on devices, and can be combined with the AMS (Access Management System) and imageWARE ADVANCE Tracker to track usage and enforce access control to system functions.

2. imageRUNNER ADVANCE Tracker

imageRUNNER ADVANCE Tracker is a serverless output tracking and cost recovery solution designed specifically for the imageRUNNER ADVANCE Series. It tracks a user's device usage on a per function basis through Department IDs and Windows log on user names.

3. imageWARE Enterprise Management Console and Plug-ins

iW EMC (imageWARE Enterprise Management Console) is a Web-based network device management utility that enables IT managers to control and manage all devices installed on the network from one central location. IT managers can discover devices, view device status, manage device settings, and notify users of device errors via e-mail.

The capabilities of imageWARE Enterprise Management Console can be expanded by using optional plug-in applications, such as the Address Book Management Plug-In (enables an System Administrator to retrieve an address book from one imageRUNNER ADVANCE device and deliver it to other imageRUNNER ADVANCE devices across the network).

The optional plug-ins are available for IT managers and dealers through http://www.imageware.com, or to the dealer only through Canon

U.S.A.'s
e-Support Center Web site www.support.cusa.canon.com.

4. uniFLOW Device Security & Management

uniFLOW, the print/output management solution, includes multiple authentication methods to enable an organization to restrict machine access and functions on a per user basis. uniFLOW end-users must authenticate themselves either by entering their user name and password, or by using a smart card, proximity or magnetic card.

5. uniFLOW Serverless Secure Print

uniFLOW Serverless Secure Print is a secure printing and follow-me printing option that utilizes the end-user's client PC to store secure print jobs until the end-user can authenticate and release the secure print jobs at an imageRUNNER ADVANCE device. The imageRUNNER ADVANCE device then pulls the print job from the end-user's client PC. uniFLOW Serverless Secure Print is scalable and upgradeable to the full version of uniFLOW.

6. imageWARE Secure Audit Manager Express

imageWARE Secure Audit Manager Express captures and archives the contents and attributes of all jobs performed on the device. This enables System Administrators to continuously track and archive network activities.

7. MEAP Web

MEAP Web is a MEAP application that serves as an online client management tool. MEAP Web helps end-users configure and manage imageRUNNER ADVANCE hardware and software resources via the Web Access Software.

E. Business Workflow Software

1. Forms and Print Services for Salesforce

Forms and Print Services for Salesforce is a cloud service that enables users to print and store reports and graphic sales data directly to their imageRUNNER ADVANCE machine without the need for print drivers.

2. Enterprise Imaging Platform

Enterprise Imaging Platform enables users to automate document and image related business processes.

VII. Dealer Sales/Service Authorization

To obtain and maintain authorization to sell or service an imageRUNNER ADVANCE device, every Authorized Reseller's location must have at least one employee who has successfully completed the appropriate imageRUNNER ADVANCE device-training program, and who has been certified, as described in Educational Training.

VIII. Educational Training

A. Training Program Overview

The imageRUNNER ADVANCE C2200 Series Hardware Update Training Program is for service technicians who are already trained and certified on the imageRUNNER ADVANCE C2000 Series models. This update course enables technicians to identify the new features of the imageRUNNER ADVANCE C2200 Series, and provide service technicians with the knowledge required for servicing and maintaining the imageRUNNER ADVANCE C2200 Series devices and respective accessories in the field.

Figure 1 – Learning Path for Technicians

| Applied Technology (Online & Classroom Courses) | ➡ | imageRUNNER ADVANCE C2000 Series Online (07IRTC200E) | ➡ | imageRUNNER ADVANCE C2000 Series Systems Update Online (07IRTC2U00E) | ➡ | imageRUNNER ADVANCE C2200 Series Hardware Update Online (18IRTC220E1) |
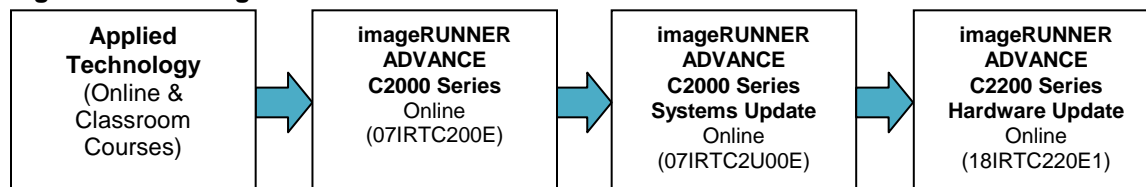
B. Online Course Module

Technicians can be certified on the imageRUNNER ADVANCE C2200 Series machines by taking imageRUNNER ADVANCE C2200 Series Hardware Update course online.

The online Hardware course module is available on Canon USA's e-Support Web site, and it provides technicians with the theoretical concepts to support the imageRUNNER ADVANCE C2200 Series machines.

Table 8 – Online Course Module

Course Name	Course Code	Required
imageRUNNER ADVANCE C2200 Series Hardware Update	18IRTC220E1	Yes

C. Prerequisites

Prior to taking the imageRUNNER ADVANCE C2200 Series Training program, technicians must successfully complete the Applied Technologies Learning course and the imageRUNNER ADVANCE C2000 Series course.

Table 9 – Prerequisite Courses

Course Name	Course Code	Required
Applied Technologies Online Course	07TAT00ONEW	Yes
Applied Technologies Classroom Course	07TAT01CNEW	Yes
imageRUNNER ADVANCE C2000 Series	07IRTC200E	Yes
imageRUNNER ADVANCE C2000 Series Systems Update	07IRTC2U00E	Yes

D. Certification

The successful completion of the imageRUNNER ADVANCE C2200 Series Hardware Update Training program and passing of the final assessment exam are required to sell this product.

Certification includes the following models:

- imageRUNNER ADVANCE C2230
- imageRUNNER ADVANCE C2225

E. Who Should Attend

It is highly recommended that any technician responsible for installing, servicing, or supporting the imageRUNNER ADVANCE C2200 Series machines successfully complete the imageRUNNER ADVANCE C2200 Series Hardware Update Training program and pass the final assessment exam.

Note: Our current support policy dictates that only those technicians who have completed the training program and pass the final assessment exam are entitled to live, phone-based support through our TSC (Technical Support Center). However, self-service support (software downloads, knowledgebase articles, support forums, technical publications) is available through our e-Support Center Web site for all technicians. (Refer to the Technical Support section on the e-Support Web site for entitlement details.)

F. Training Facilities

1. Online Course Training Facilities

The online courses are located in the e-Learning center on Canon U.S.A., Inc.'s (hereinafter referred to as ("Canon USA")) e-Support Web site: http://www.support.cusa.canon.com. Certification maps on the e-Support Web site provide easy access to the training. The online courses can be conducted at any dealer facility that is suitable for online student learning. An imageRUNNER ADVANCE C2200 Series device must be available to complete the labs.

2. Classroom Training Facilities

Classroom training is available in each of the five Canon Regional Training Centers:

- Jamesburg, New Jersey
- Norcross, Georgia
- Irving, Texas
- Itasca, Illinois
- Irvine, California

G. Course Equipment

- Windows workstation (Vista, XP, 2007, or higher)
- Microsoft Internet Explorer v7.0 or higher
- imageRUNNER ADVANCE C2200 Series device
- Applicable accessories (hardware and software)

H. Service Materials

The materials required for the imageRUNNER ADVANCE C2200 Series Training Program are listed in the table below.

Table 10 – Service Materials

| Model	Item	Location
imageRUNNER ADVANCE C2200 Series	e-Learning Training Program	Conducted online
	Service Manual	Downloadable from within the e-Learning course and the e-Support Center Web site
	Parts Catalog	

IX.   Servicing Notes

A. Power and Plug Requirements

Canon USA strongly suggests dedicated and properly grounded outlets be provided for the imageRUNNER ADVANCE C2200 Series devices.

The imageRUNNER ADVANCE C2200 Series devices require a NEMA 5-15 receptacle for proper operation. Before installation, confirm that the proper dedicated NEMA receptacles are available for these devices.

Table 11 – Main Unit Power and Plug Requirements

imageRUNNER ADVANCE C2200 Series Main Unit
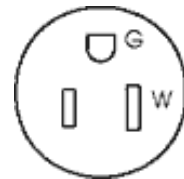
NEMA 5-15 Receptacle

⬤ IMPORTANT
- We recommend an additional standard 120 V/15 A outlet for service tools, such as a laptop computer or vacuum that may be used when servicing or configuring the machine.
- Use only dedicated and properly grounded outlets for the main unit. It is also strongly suggested to use dedicated and properly grounded outlets for each optional accessory. Do not use extension cords. The ground connection serves to provide the internal electronics with a reference voltage. Faulty or poor ground sources will cause this reference voltage to fall into a range that no longer serves as a reliable reference voltage. The internal logic and programming of the imageRUNNER ADVANCE C2200 Series machines will not perform reliably because there is an insufficient difference between the internal operating signal voltages and the poor ground reference signal. A qualified electrician can measure and provide the ground source that the imageRUNNER ADVANCE C2200 Series machines or any computer controlled office equipment requires.
- Before installation, confirm that all necessary receptacles are available.

Table 12 – Power Requirements for the Main Unit and Optional Accessories

Part or Accessory	Power Supply	Power Supply Cord/Plug Specifications	Length of Power Cord
Main Unit	1-120 V/15 A outlet	NEMA 5-15	8.5' (2.6 m)
Cassette Feeding Unit-AF1	From the main unit	—	—
Staple Finisher-M1	From the main unit	—	—
Booklet Finisher-M1	From the main unit	—	—
Inner Finisher-F1	From the main unit	—	—
Card Reader-F1	From the main unit	—	—

B. Installation Space Requirements

The imageRUNNER ADVANCE C2200 Series machine approximate installation space requirements may differ, depending on how the machine is configured and the optional accessories attached. Always ensure that there is enough space for service and operation of the device.

🖐 IMPORTANT

- Make sure that approximately 19 3/4" (500 mm) of space is left around the front, left, and right sides of the machine for the proper servicing of the equipment.
- If the Copy Tray-J1 is attached to the machine, keep the back of the machine at least 10" (250 mm) away from a wall. For all other configurations, keep the back of the machine at least 4" (100 mm) away from a wall.
- The floor must be level (with no bows) and flat for the stabilization and support of the machine.
- The minimum doorway opening that the machine passes through prior to installation must be at least 30 1/2" wide.

Table 13 – Installation Space Requirements

No Optional Equipment Is Attached
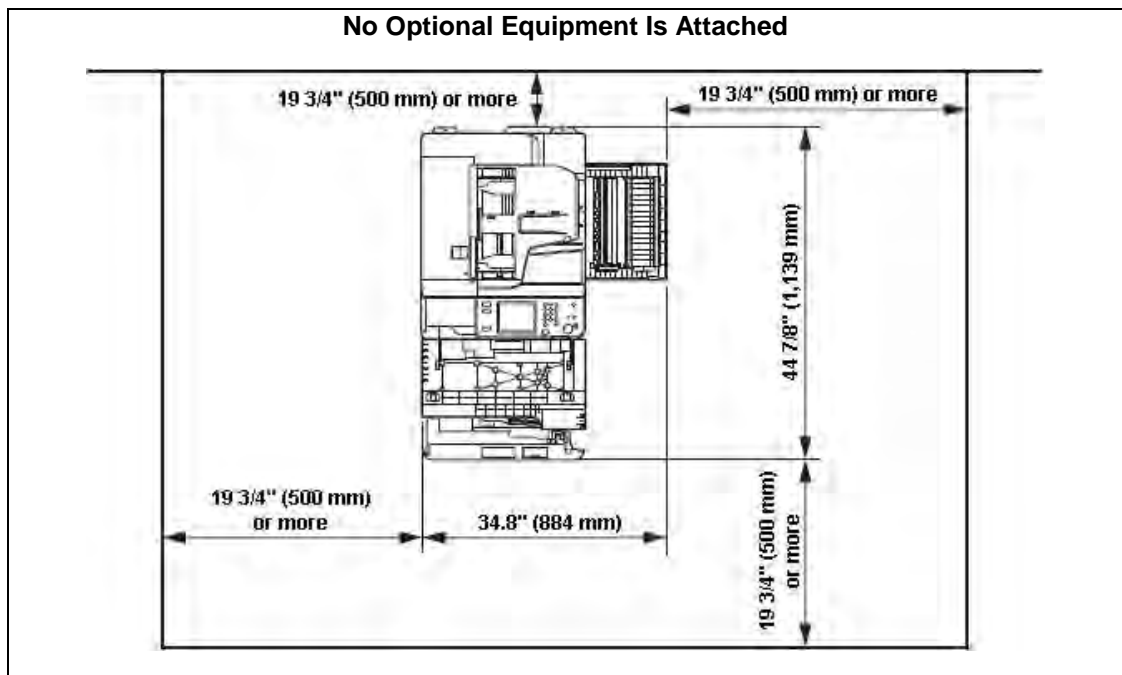
Table 15 – Installation Space Requirements Continued

The Inner Finisher-F1 and Copy Tray-J1 Are Attached

The Booklet Finisher-M1 and Buffer Pass Unit-K1 Are Attached
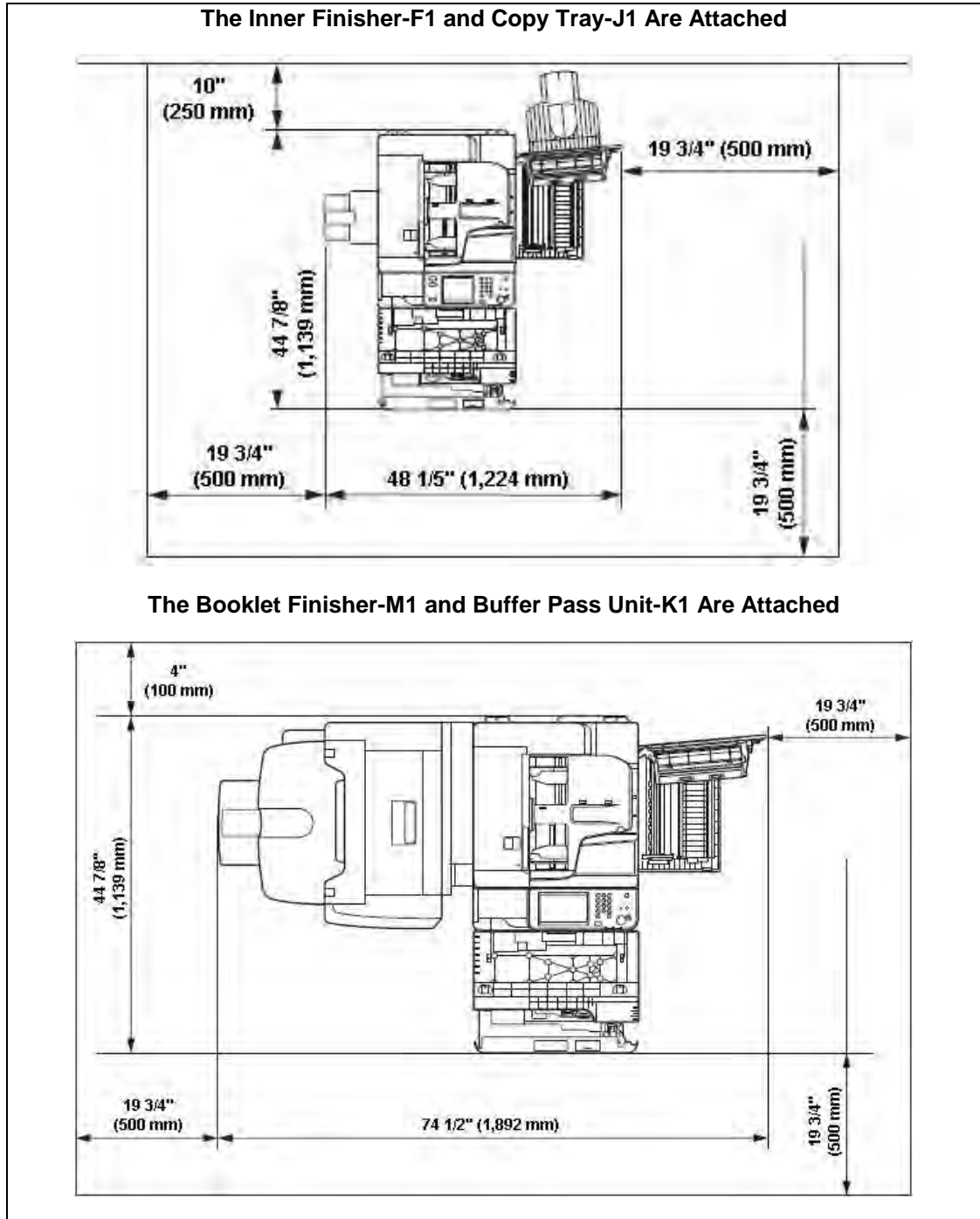
C. Estimated Installation Times

The table below indicates the estimated length of time needed to unpack and install the main unit and optional accessories, and calculated from the average amount of labor hours. The estimated installation times are based on up to two (2) experienced technicians.

🖐IMPORTANT

The installation of the main unit on the optional Cabinet Type-D requires four or more technicians.

Table 14 – Estimated Installation Times

Description	Estimated Time
imageRUNNER ADVANCE C2200 Series Main Unit	21 minutes
DADF-AJ1	10 minutes
Stamp Unit-B1	3 minutes
Cassette Feeding Unit-AF1	14 minutes
Envelope Feeder Attachment-D1	6 minutes
Copy Tray-J1	1 minute
Staple Finisher-M1	15 minutes
Booklet Finisher-M1	15 minutes
Buffer Pass Unit-K1	11 minutes
Inner Finisher-F1	12 minutes
Inner Finisher Additional Tray-A1	10 minutes
Inner 2Way Tray-F1	4 minutes
Utility Tray-A2	10 minutes
Card Reader-F1 and Copy Card Reader Attachment Kit-B3	14 minutes
Super G3 FAX Board-AH2	11 minutes
Super G3 2nd Line Fax Board-AH1	15 minutes
USB Device Port-E2	15 minutes
Multimedia Reader/Writer-A2	12 minutes
Voice Guidance Kit-F2	14 minutes
Voice Operation Kit-C2	15 minutes
HDD Data Encryption-C3	8 minutes
Removable HDD Kit-AE1	15 minutes
Remote Fax Kit-A1	15 minutes
Copy Control Interface Kit-A1	8 minutes
Image Data Analyzer Board-B1	6 minutes

D. Remote Support Services

Remote support services consist of imageWARE Remote and the CDS (Content Delivery System).

1. imageWARE Remote

imageWARE Remote is a service that collects page counter, service parts counter, and alarm, jam, and error code data from Canon devices with the eRDS (Embedded Remote Diagnostic System).

The eRDS enables a device to transmit counter and error code data to a UGW (Universal Gateway) database that the dealership can retrieve via a Web portal. imageWARE Remote provides the following benefits to customers:

- The ability to communicate meter counter information to the UGW database for review by your dealership.
- The ability to communicate device alarm, jam, and error alert notifications to the UGW database. The notification settings can be adjusted by your dealership within the UGW.
- The ability to schedule a firmware download via the CDS (Content Delivery System).

2. Content Delivery System

The CDS is Canon's next generation system for the delivery and installation of firmware and MEAP (Multifunction Embedded Application Platform) applications to imageRUNNER ADVANCE devices. The advantages of the CDS include reduced service costs (labor and travel), and improved first-call resolution. Another benefit is that the latest version of firmware is always available to download and install on the imageRUNNER ADVANCE devices.

The CDS provides users the option to download select MEAP applications (.jar files and license files), select client applications, and related manuals from the CDS Web site (http://www.canon.com/fau/downloads). However, the value of using the CDS is realized when updating multiple imageRUNNER ADVANCE devices. You can save up to 40 minutes per machine for machine preparation and application downloading and installation.

There are three methods which helps you to deliver firmware updates and applications to imageRUNNER ADVANCE devices:

Table 15 – CDS Firmware Delivery Methods

Method		Download Firmware	Install Firmware	Frequency	Cost Savings
Method A	Scheduled Update (at device)	Automatic	Automatic	Recurs periodically	Full, automatic and unattended firmware updates after an initial one-time setup (fewer than 5 minutes).
Method B	Remote Update via UGW + CDS	Up to 13 hours to 7 days in advance	Automatic	One time as scheduled	Eliminates technician visits.
			Manual		Reduces the duration of a technician's visit.
Method C	On Demand Update (at device)	Up to 7 days in advance	Automatic	One time as scheduled	Full, automatic and unattended firmware updates after configuring (fewer than 5 minutes).
			Manual	One time on demand	Requires a technician visit every time the firmware must be updated.

a. Method A – On-Site Scheduled Update

The On-site Scheduled Update method ensures that the device always has the latest version of firmware installed. After a one-time setup by a service technician, the imageRUNNER ADVANCE machine automatically downloads and installs new firmware as it becomes available. No further technician visits are required to update firmware.

b. Method B – Remote Update

The Remote Update method enables the dealership to arrange a scheduled firmware download to the imageRUNNER ADVANCE from the UGW, or it provides the option for a service technician to visit the site and upgrade the most recent firmware at the machine.

c. Method C – On Demand Update

The On Demand Update method provides the service technician with access to the most recent version of firmware on demand at the device. The technician also has the ability to schedule firmware installs. A service technician must visit the site every time the firmware must be updated; however, the technician does not need to maintain a library of firmware versions.

Notes:

- To utilize the CDS on an imageRUNNER ADVANCE, the device must have access to the Internet. The service technician should perform a communications test from the Service Mode of the device to validate the device's ability to communicate to the CDS Distribution Server.
- When using the Remote Update method, the service technician must enable eRDS and the CDS UGW switch on all imageRUNNER ADVANCE devices. In addition, the devices must be registered on the UGW. For more information on registering devices on the UGW, see the documentation that came with imageWARE Remote.
- The CDS Instruction Manual includes conditions for use and acceptance of the CDS Service. It also contains language to help the customer understand the conditions for use and acceptance of the third-party software that is embedded in the hardware. (These conditions are also addressed in the Limited Warranty for Embedded Software.)
- The Content Delivery System Software Solutions Guide (available on Canon USA's ISG Central and e-Support Web sites), contains additional language that Canon USA recommends your dealership include in the Maintenance Agreement with your customers as it pertains to the use of the CDS service.

E. Serviceability

The imageRUNNER ADVANCE products are designed to improve serviceability, quality, and deliver lower service costs, which result in increased dealer service profitability.

Enhanced serviceability, as part of the overall design of the imageRUNNER ADVANCE products, enables a reduction in the time required to service the machine's major components. Access to common parts and frequently-used components has been improved to enable technicians to perform tasks more efficiently.

In addition, technology improvements and the FRU (Field Replaceable Unit) Program have reduced parts pricing, improved the cost per copy, and reduced the price of the fixing roller.

Finally, the use of Remote Support Services provides your dealership with remote meter reading and service monitoring capabilities using imageWARE Remote, as well as the ability to maintain up-to-date machine firmware downloads remotely and unobtrusively by using the CDS. All of these factors combined, helps to reduce the overall cost per copy, and enables competitive suggested maintenance pricing and favorable margins.

F. Device Configuration Management

There are two tools to help a System Administrator manage device configuration settings from device to device, and they are standard tools on the imageRUNNER ADVANCE C2200 Series: DCM (Device Configuration Manager) and Device Migration Navigator.

1. DCM (Device Configuration Manager)

The DCM reduces the installation time for a new or replacement imageRUNNER ADVANCE device by enabling the user modes and service modes to be exported from the current device, and then imported to a new or replacement device.

The settings can be exported from the current device via the Remote UI or the Device Information Delivery Settings function, or via the Service Mode to USB memory media. To import these settings to a new or replacement device, use the Remote UI, or import them via the Service Mode from USB memory media. For more information on the DCM, see the *imageRUNNER ADVANCE C2200 Series Service Manual*.

2. Device Migration Navigator

The Device Migration Navigator is an application that helps the service technician select the best migration tool (Remote UI or USB memory media) to transfer device settings based on the source device, destination device, and the settings that need to be transferred.

The Device Migration Navigator delivers a printable report that shows the service technician the tools to use, the migration procedure, and the migration limitations. It is also available at no charge from CUSA's [e-Support Web site](#) Download Center.

Note: The Device Migration Navigator is only used to transfer device settings. It is not used to back up or restore RAM data.

G. LMS (License Management System)

To activate optional software programs, you must obtain a license through the LMS server. This replaces the need for additional hardware or dongles to activate new software.

The LMS is a server-based software license program. All purchased software application packages contain a license access number certificate with the documentation. The dealer must enter the license access number and the imageRUNNER ADVANCE device's serial number into the LMS server to generate a license key. The URL to access the LMS server is: http://www.canon.com/lms/ir/.

Figure 2 – License Management System
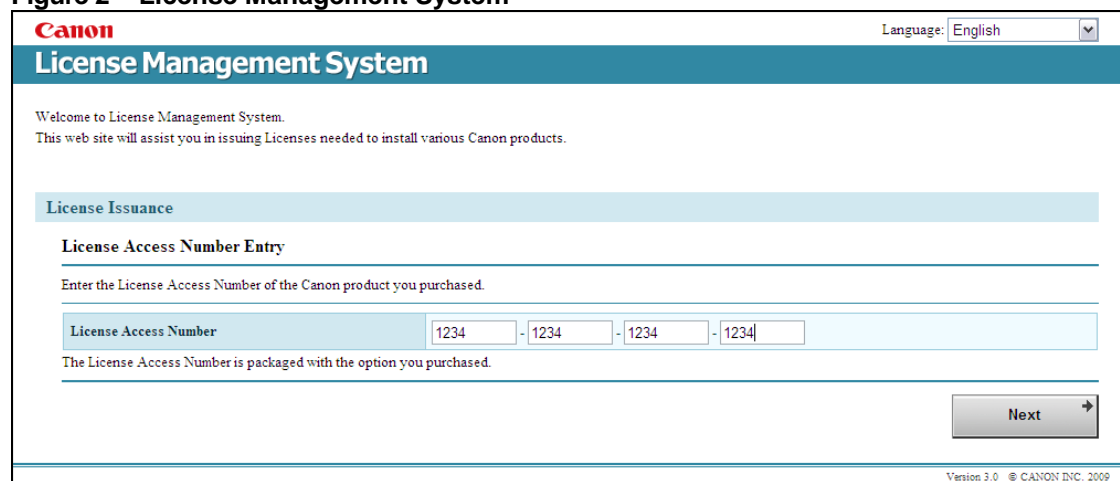
If there are activation or installation issues, contact the Technical Support Center. Be prepared to provide the product's serial number, license access number, and license key.

Notes:
- The license access number comes with the software. Keep the license access number in a secure location, as it cannot be replaced if it is lost.
- The machine's serial number can be found on the Counter Check screen on the machine's UI.
- Activated software programs are not impacted by normal service activity.

H. Content Delivery System Web Site

The CDS Web site enables end-users to download, install, and activate select MEAP applications (.jar and license files) via the imageRUNNER ADVANCE device directly, without the need to go through the LMS and Service Management Service.

To manage licenses, register, and install MEAP applications, you can access the CDS directly from the imageRUNNER ADVANCE device's touch panel display, enter the LAN (License Access Number) of the MEAP application when prompted, and then follow the instructions on the touch panel display to install and register the MEAP application.

Some MEAP applications include a Software License Agreement to which you must agree before you can complete the installation and registration process.

Additionally, you can download select client applications and related manuals from the CDS Web site located at: http://www.canon.com/fau/downloads.

Figure 3 – Content Delivery System Web Site
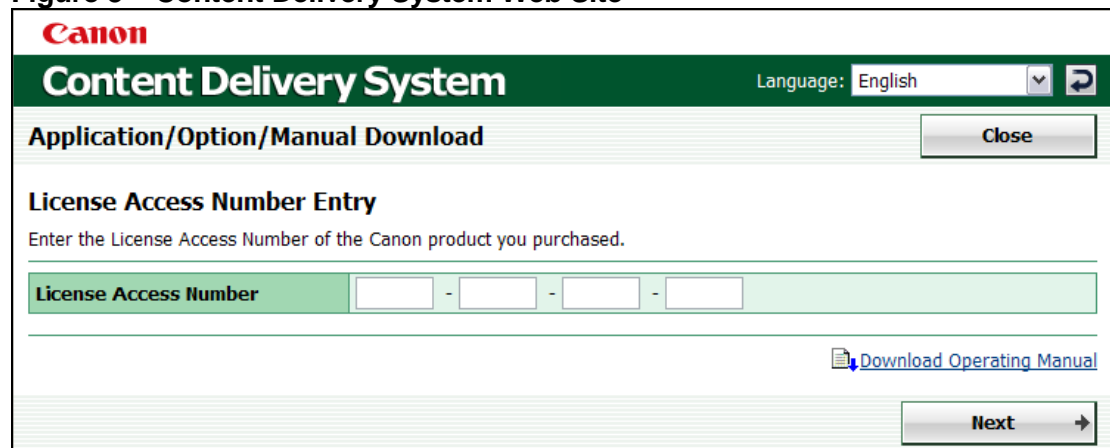
If there are activation or installation problems, contact the Technical Support Center, and provide the product's serial number and LAN.

I. Recommended System Engineer Requirements

An SE (System Engineer)[38] is recommended to work with Canon's networked devices, and should have the following basic job functions:

- Systems integration (pre-sale and post-sale)
- Installation
- Education of customers and dealership personnel
- Troubleshooting

To perform the above tasks successfully, it is crucial that the SE have strong computer skills and working knowledge in the following areas (listed in order of importance):

1. The major computer platforms (IBM-compatible and Macintosh)
2. Computer hardware (including cabling)
3. Computer software (including drivers)
4. Operating systems:
   - Windows 2000 Professional/Server/Advanced Server
   - Windows XP Professional/Home Edition (32 bit)
   - Windows XP Professional x64 (64 bit)
   - Windows Server 2003 (32 and 64 bit versions)
   - Windows Vista (32 bit)
   - Mac OS versions 10.1.5 and up (for PS/PCL), and versions 10.2.8 – 10.4.2 (for UFR II)
5. Network Operating Systems:
   - Novell NetWare 3.*x*, 4.*x*, 5.*x*, and 6.*x*
   - Windows NT/2000/2003
   - Mac OS X
6. Protocols:
   - TCP/IP
   - IPX/SPX
   - NetBIOS
   - AppleTalk
7. Printing
8. Scanning

It is also important that the SE have computer skills and working knowledge in the following areas:
- Other computer platforms (mainframe and UNIX)
- Networking
- Basic electronics

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38 An SE (System Engineer) is a professional title often used by hardware vendors for individuals who perform systems related tasks, such as analysis, design, and programming. System Engineers are also often involved in pre-sales activities.

The Education/Training (listed in preferred order) of a successful Canon dealership's SE include:

1. Novell CNA or Novell CNE or Microsoft MCSE certification
2. Two years of experience being a Canon Copier Service Technician (training centered on connectivity products)
3. A degree in Computer Science or Engineering, or a computer technician with two years of experience is required in the above areas.

J. Firmware Upgrades Using the Service Support Tool

The SST (Service Support Tool) (version 4.72 or later) is available via Canon's e-Support Center Web site (http://www.support.cusa.canon.com) for upgrading the following system components:

- System Software stored on the HDD
- Main engine firmware
- Accessory firmware (Refer to the SST User Manual for a list of supported devices and accessories.)
- MEAP Contents
- Language
- HDD Format
- Clear the service mode password
- Initialize the HDD Encryption Board
- Temporary back up and restore the Flash PCB (Printed Circuit Board) and SRAM settings on the Main Controller PCB 2.
- Initialize the standard area on the Flash PCB

The imageRUNNER ADVANCE C2200 Series devices support firmware downloads from the SST and a USB memory stick. When the hard disk drive is replaced, the SST is used to format the new HDD and load software.

IMPORTANT
- The imageRUNNER ADVANCE Security Kit-D1 for IEEE 2600.1 Common Criteria Certification ships with certified device firmware to enable the imageRUNNER ADVANCE C2200 Series machines to be IEEE 2600.1 certified.
- Once the imageRUNNER ADVANCE Security Kit-D1 for IEEE 2600.1 Common Criteria Certification is installed, you can only upgrade imageRUNNER ADVANCE C2200 Series machines with firmware versions certified for the IEEE standard 2600.1-2009. Upgrading to non-certified firmware invalidates the IEEE standard 2600.1 certification, although the machine will continue to operate properly.

K. Computer Requirements for Downloading Firmware

The recommended desktop PC or laptop requirements[39] to download the firmware are:

- CPU: Celeron 400 MHz or higher (32-bit processor only)
- Memory: 512 MB of RAM or more
- Free HDD Capacity: 1 GB or more of available hard disk space
- High-Speed USB 2.0 (recommended) or 1.1
- Display: VGA 640 x 480 resolution or better, 256 colors or more
- Operating System (any of the following):
    - Microsoft Windows 2000 Server/Professional
    - Microsoft Windows XP Professional or Home Edition
- Network connection: 10Base-T/100Base-TX, or a PCMCIA slot for an Ethernet card
- Download Tool: SST version 4.72 or later
- Necessary Cables:
    - High-Speed USB 2.0-compliant cable (as short as possible to avoid connection problems). **Note:** Do not use extension cables.
    - Cross-over Ethernet cable

L. Hard Disk Drive Handling

The imageRUNNER ADVANCE C2200 Series machines use an HDD (Hard Disk Drive) for storing firmware and image data. The HDD is easily affected by shock, vibration, and static charge. Therefore, its handling requires special care. When transporting an HDD, which is available as a service part, it must be kept in its original package until it is installed in a machine.

⚠ **CAUTION**

Canon USA or any of its affiliates or dealers are not liable for any damages for loss of data received or stored on the hard disk, including loss arising from lost opportunity to use such data, even if Canon is informed of the possibility of such damages. Therefore, it is recommended to not permanently store data on the HDD without having secured copies or printouts of such data. (Review the terms of the product's Limited Warranty for more details.)

🖐IMPORTANT

If an HDD must be replaced due to a fault, all MEAP application files stored on it will be lost, requiring all applications and their license files to be reinstalled, in addition to replacing the HDD. Refer to the *imageRUNNER ADVANCE C2200 Series Service Manual* for further details.

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39   Specifications are subject to change without notice.

M. Special Tools, Solvents and Oils

In addition to the standard tools used to service these devices, the following special tools should also be carried by a service technician, according to the tool's rank. For more information on the special tools, solvents, and oils below, see the *imageRUNNER ADVANCE C2200 Series Service Manual*.

Table 16 – Special Tools List

Description	Appearance	Rank	Part Number[8]	Remarks
Digital Multimeter		A	FY9-2002-000	Used for electrical checks and adjustment of laser power with the laser power checker.
Tester Extension Pin		A	FY9-3038-000	Used as a probe extension when making electrical checks.
Tester Extension Pin (L-shaped)		A	FY9-3039-000	Used as a probe extension when making electrical checks.
CA-7 Test Sheet		A	FY9-9323-000	Used for checking and adjusting images.
Loupe		B	CK-0056-000	Used to check images.
Rank Description				
A: Each service person must carry one.				
B: At least every five service people must carry one.				

8   Part numbers are subject to change without notice.

Table 17 – Solvents and Oils

Type	Uses	Composition	Remarks
Alcohol	Cleaning glass, plastic, rubber, and external covers.	• Fluoride-family hydrocarbon • Alcohol • Surface activating agent • Water	• Keep away from flammable materials. • Purchase locally. • Substitute: IPA (Isopropyl Alcohol).
Lubricating Oil	For lubricating the scanner rail.	Silicone oil	Tool Number: FY9-6011 (50 cc)
Conducting Grease	For lubricating the drum's sliding assembly and the edge of the secondary transfer roller.	Fluorine Poly Ethyl	Tool Number: FY9-6021 (20 g)

N. Consumables

Consumables are all products and materials that are consumed with regular use and cannot be reused. Such consumables include but are not limited to paper, chemicals, and toner.

A number of factors are considered to determine the approximate yield expectancy of a consumable item, including paper size and the amount of coverage per page.

Note: All consumables shown in the table below are estimates for reference purposes only, and are subject to change without notice.

Table 18 – Main Unit Consumables List

Description	Part Number[8]	Quantity	Estimated Life (Pages)[40]		Remarks
			C2230	C2225	
GPR-36 Black Drum Unit	3786B004BA	1	Approx. 56,000	Approx. 48,000	Based on a 30% color ratio.
GPR-36 Cyan Drum Unit	3787B004BA	1	Approx. 51,000	Approx. 44,000	Based on a 100% color ratio.
GPR-36 Magenta Drum Unit	3788B004BA	1	Approx. 51,000	Approx. 44,000	
GPR-36 Yellow Drum Unit	3789B004BA	1	Approx. 51,000	Approx. 44,000	
GPR-36 Black Toner	3782B003AA	1	Approximately 23,000[41]		22,200 pages if this is the first time using the black toner cartridge on a brand-new machine.
GPR-36 Cyan Toner	3783B003AA	1	Approximately 19,000[41]		18,000 pages if this is the first time using the color toner cartridge on a brand-new machine.
GPR-36 Magenta Toner	3784B003AA	1	Approximately 19,000[41]		
GPR-36 Yellow Toner	3785B003AA	1	Approximately 19,000[41]		

8   Part numbers are subject to change without notice.

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40   Value is based on LTR paper. Estimated average values in the field are based on data from the supplier. Data is subject to change, depending on many factors, including, without limitation, the monthly copy volume, environment, type of image printed, and how the customer handles the equipment.

41   The estimated life of the first toner cartridge is shortened, as the toner is first supplied to the Buffer Unit.

O. Consumable Parts

Consumable parts are defined as those parts having a limited life that will be reached during a customer's specific machine operation, and should then be replaced as needed. Examples of consumable parts include, but are not limited to, feed rollers and cleaner blades.

An estimated consumable parts list is provided in the table below to assist in the initial parts/supplies planning. A consumable part's life expectancy is directly related to usage factors, such as paper size, paper quality, environment, usage application, and machine maintenance. Therefore, consumable parts do not have a warranty, and Canon USA cannot guarantee a minimum life.

Note: All consumable parts shown in the table below are for reference purposes only, and are subject to change without notice.

Table 19 – Main Unit Consumable Parts List

Description	Part Number[8]	Quantity	Estimated Life[40]	Remarks
Multi-Purpose Tray Pickup Roller	RL1-2244-000	1	150,000 sheets[42]	
Multi-Purpose Tray Separation Pad	RM1-6163-000	1	150,000 sheets[42]	
Cassette 1 (520) Pickup Roller Assembly	FM0-3173-000	1	120,000 sheets	
Cassette 1 (520) Separation Roller Assembly	FM0-1657-000	1	120,000 sheets[42]	
Cassette 2 Feed/Separation Roller	FC6-7083-000	1	150,000 sheets[42]	
Cassette 2 Separation Roller	FC6-6661-000	1	150,000 sheets[42]	

8 Part numbers are subject to change without notice.

40 Value is based on LTR paper. Estimated average values in the field are based on data from the supplier. Data is subject to change, depending on many factors, including, without limitation, the monthly copy volume, environment, type of image printed, and how the customer handles the equipment.

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42 Large size ratio affects the estimated life of the consumable part.

Table 19 – Main Unit Consumable Parts List Continued

Description	Part Number[8]	Quantity	Estimated Life[40]	Remarks
ITB Unit	FM3-8240-000	1	150,000 sheets	
Secondary Transfer Outer Roller	RM1-7928-000	1	150,000 sheets	
Fixing Assembly	FM1-B290-000	1	150,000 sheets	
Waste Toner Container[43]	FM3-8137-000	1	15,000 pages	Intermittent printing of 2 sheets (LTR, plain paper) per job, at an image ratio of 5% per color, and color ratio of 100%.

8   Part numbers are subject to change without notice.
40 Value is based on LTR paper. Estimated average values in the field are based on data from the supplier. Data is subject to change, depending on many factors, including, without limitation, the monthly copy volume, environment, type of image printed, and how the customer handles the equipment.

IMPORTANT:
 WHEN REPLACING THE FIXING ASSEMBLY, YOU MUST REMOVE THE DELIVERY GUIDE (FM4-7712-000) FROM THE OLD ONE, AND INSTALL IT ON THE NEW ONE.

Table 20 – Feeder (DADF)-AJ1 Consumable Parts List

Description	Part Number[8]	Quantity	Estimated Life[40]	Remarks
Pickup Roller	FM0-1226-000	1	80,000 sheets	
Separation Pad	FL3-5538-000	1	80,000 sheets	
Feed Guide (Dust Collecting Tape)	FL3-2942-000	1	40,000 pages	
Stamper	FB5-9410-000	1	7,000 pages	
Hinge Unit (Left)	FE2-1598-000	1	150,000 times	

8   Part numbers are subject to change without notice.
40 Value is based on LTR paper. Estimated average values in the field are based on data from the supplier. Data is subject to change, depending on many factors, including, without limitation, the monthly copy volume, environment, type of image printed, and how the customer handles the equipment.

Table 21 – Cassette Feeding Unit-AF1 Consumable Parts List

Description	Part Number[8]	Quantity	Estimated Life[40]	Remarks
Feed Roller	FC6-7083-000	1	150,000 sheets	
Separation Roller	FC6-6661-000	1	150,000 sheets	

8   Part numbers are subject to change without notice.
40 Value is based on LTR paper. Estimated average values in the field are based on data from the supplier. Data is subject to change, depending on many factors, including, without limitation, the monthly copy volume, environment, type of image printed, and how the customer handles the equipment.

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43 The waste toner container can be reused after the waste toner is emptied by a service technician. However, if the user wants to replace the entire container, the end user can replace it.

Table 22 – Staple Finisher-M1 and Booklet Finisher-M1 Consumable Parts List

Description	Part Number[8]	Quantity	Estimated Life[40]	Remarks
Stapler Unit	FM2-0665-000	1	500,000 times	
Stitcher Unit	FL2-0846-000	2	100,000 sheets	For the Booklet Finisher-M1 only.

8   Part numbers are subject to change without notice.
40 Value is based on LTR paper. Estimated average values in the field are based on data from the supplier. Data is subject to change, depending on many factors, including, without limitation, the monthly copy volume, environment, type of image printed, and how the customer handles the equipment.

P. Periodically Replaced Parts

The imageRUNNER ADVANCE C2200 Series does not have any periodically replaced parts.

Q. High-Durability Replacement Parts

It is strongly recommended to replace the high-durable parts listed in the table below when the machine reaches or exceeds approximately 500,000 prints or copies.

Table 23 – High-Durable Parts Replacement List

Description	Part Number[8]	Quantity	Estimated Life[40]	Remarks
Pickup Registration Unit (520)	FM0-1658-000	1	500,000 images	Replace simultaneously with the Right Door Unit.
Right Door Unit	FM3-8036-000	1	500,000 images	
Main Drive Unit	FM0-4719-000	1	500,000 images	

8   Part numbers are subject to change without notice.
40 Value is based on LTR paper. Estimated average values in the field are based on data from the supplier. Data is subject to change, depending on many factors, including, without limitation, the monthly copy volume, environment, type of image printed, and how the customer handles the equipment.

R. Periodic Maintenance

The parts in the table below must be cleaned or inspected periodically to ensure a specific level of machine performance. Clean or inspect the parts at the interval specified below.

Item	Maintenance Interval (Sheets)				Remarks
	50,000	150,000	500,000	As Needed	
Dustproof Glass	Clean				Clean with the Dustproof Glass Cleaning Tool.
Registration Patch Sensor	Clean				Clean with a lint-free cloth moistened with alcohol.
Secondary Transfer Outer Roller	Inspect				
Pre-Secondary Transfer Outer Guide	Clean				Clean with a lint-free cloth moistened with alcohol.
Registration Roller	Clean				
Pre-Registration Guide	Clean				
Merging Roller	Inspect				
Duplex Feed Upper Roller	Inspect				
Duplex Feed Lower Roller	Inspect				
Cassette 2 Vertical Path Roller	Inspect				
Second Delivery Roller	Inspect				
Third Delivery Roller	Inspect				

S. Soft Counter

The imageRUNNER ADVANCE C2200 Series machines use soft counters to track their functional copy use. The control panel displays up to eight counters on the Counter Status Check screen (when the Counter Check key on the control panel is pressed). By default, the imageRUNNER ADVANCE C2200 Series machines display 6 out of 8 counters on the Counter Status Check screen.

The table below indicates the default counter configurations of the imageRUNNER ADVANCE C2200 Series machines displayed on the Counter Status Check screen. For more information on the soft counter configurations, see the *imageRUNNER ADVANCE C2200 Series Service Manual*. Specifically, refer to the Service Mode section of the Service Manual that covers the setting under COPIER > OPTION > USER.

Table 24 – Soft Counter Configuration

Counter	Description	Default Display	Default Switch
1	101: Total 1	On	Fixed
2	108: Total (Black 1)	On	May be changed via Service Mode setting to any available counter.
3	229: Copy (Full Color + Single Color/Large[44])	On	
4	230: Copy (Full Color + Single Color/Small[45])	On	
5	321: Print (Full Color + Single Color/Large[44])	On	
6	322: Print (Full Color + Single Color/Small[45])	On	
7	Not displayed	Off	
8	Not displayed	Off	

The displayed counters can be changed, enabled, or disabled in the Service Mode, except for Counter 1. Counter 1 cannot be changed under any circumstances.

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[44] Refers to large size paper (when the paper length exceeds 14" (364 mm) in the paper feed direction).
[45] Refers to small size paper (when the paper length is 14" (364 mm) or shorter in the paper feed direction).

T. MEAP Counter

The MEAP application counter counts the number of prints and scans made per MEAP application. You can view the MEAP counter by logging on to the MEAP SMS (Service Management Service) Application/License Information page via a Web browser. (The computer you are using must be connected to the machine and network.) You can also view the MEAP counter from the MEAP device. Press the Counter Check button on the device's control panel, and then press the MEAP Counter key on the touch panel display.

There are three types of MEAP applications:

* Applet: Contains a user interface on the touch panel display of the device. Up to nine applet tabs can be displayed on the touch panel display of the device.
* Servlet: Contains a remote, programmable user interface for the application via a Web browser.
* Esplet: The application does not contain a user interface.

Each MEAP application has its own counter. There are 20 counters available for MEAP applications on the imageRUNNER ADVANCE C2200 Series machines. However, one of these 20 counters is used for Universal Send.

X.   Suggested End-User Customer Service Offerings

A. Monthly Copy/Print Volume

The maximum print/copy monthly volume is the maximum number of pages the machine can produce within a one-month period (based on letter size paper). However, the device should not be used to produce the maximum number of pages, or a greater volume, on a consistent monthly basis.

The optimum performance range is the volume range that the equipment was intended to run on a regular basis to maintain a high-level of performance and print/copy quality.

Table 25 – Monthly Copy/Print Volume

Model	Optimum Performance Range	Maximum Monthly Copy/Print Volume
imageRUNNER ADVANCE C2230	Approximately 2,000 to 7,000	Up to 52,000 copies/prints
imageRUNNER ADVANCE C2225	Approximately 2,000 to 7,000	Up to 52,000 copies/prints

B. Limited Warranty Support

1.   End-User Limited Warranty Conditions

Ninety (90) days after delivery to the original purchaser or 30,000 prints/copies, or a combination of both, whichever comes first.

This limited warranty covers the compatible Canon brand product accessories. For detailed warranty information, please refer to the imageRUNNER ADVANCE C2230/C2225 Series Limited Warranty located in the .

Note: There is no warranty on any consumable items or consumable parts, such as paper, toner, chemicals, or pick-up rollers.

2.   GPR-36 Drum Unit Limited Warranty

Full Credit:		30 days from the date of the original purchase, or 1,000 prints or copies (or a combination of both), whichever comes first.
Prorated Credit	Black Drum	120 days after delivery to the original purchaser, or 32,000 prints or copies (or a combination of both), whichever comes first.
	Color Drum	120 days after delivery to the original purchaser, or 28,000 prints or copies (or a combination of both), whichever comes first.

For detailed warranty information, please refer to the GPR-36 Drum Unit Limited Warranty located in the .

3. Flat-Rate Program

The Flat-Rate Program provides a flat-rate credit to Canon USA's full-line dealers as compensation for warranty expenses that they may incur. Dealers who purchase an imageRUNNER ADVANCE C2200 Series device will receive a Flat-Rate Program credit during the month following their purchase. This credit covers the dealer's cost of defective parts and drums with a dealer cost **under $300.00** that have been replaced during the term of the end-user's Limited Warranty.

The Flat-Rate Program enables the dealer to return the more expensive machine parts to receive reimbursement for in-warranty part failures. The flat-rate credit is a percentage of your eligible machine purchases, drums, and accessories. Flat-rate credits are posted monthly in the CNA (Canon Network Access) section of Canon USA's ISG Central Web site. Refer to the Online Limited Warranty Credit Inquiry section for more information.

Original defective parts with a dealer cost **over $300.00** that have been replaced during the term of the end-user warranty are eligible to receive reimbursement credit through the e-Tag process. Parts that are listed on the Canon USA Repairable Parts List should be sent to an APRF (Authorized Parts Repair Facility) to be repaired at no charge.

To request a part reimbursement credit, complete the e-Tag warranty claim form in the Warranty section of the e-Support Center Web site at http://www.support.cusa.canon.com. Refer to the e-Tag section of this Service Guide for further details and instructions.

Additional information on the Flat-Rate Program is located on the Canon USA's e-Support Web site at http://www.support.cusa.canon.com, as shown in **Figure 4.**

Figure 4 ─ e-Support: Flat-Rate Program

4. **Warranty Parts for Repair**

The APRFs (Authorized Parts Repair Facilities) are authorized by Canon USA to repair circuit boards for various Canon products. The APRF program is designed to help your dealership reduce service costs by having circuit boards repaired instead of purchasing brand new boards. Each circuit board is live tested and updated to the latest firmware version prior to returning it to your dealership.

Parts specified on the Canon USA Repairable Parts List must be prepaid and shipped directly to one of the following Authorized Parts Repair Facilities. Log on to the Canon USA e-Support Web site at http://www.support.cusa.canon.com to view the Canon USA Repairable Parts List. Go to the Warranty tab, Part Repair Facilities, Repairable Parts List. See Figure 5 – e-Support: Authorized Parts Repair Facilities for more details.

Hytec Dealer Services, Inc. 3600 Vineland Road (Suite 121) Orlando, FL 32811	**Nation-Wide Repair Service, Inc.** 16151 Foster Street Overland Park, KS 66085
Telephone: 1-407-297-1001 Customer Service:1-800-883-1001 Technical Support: 1-888-883-2001 Fax: 1-407-297-4310	Customer Service: 1-866-655-8676 Technical Support: 1-800-798-1814 Fax: 1-913-631-8372

Repairable parts (under warranty) are repaired free-of-charge by the APRFs. Usually, the turnaround time is approximately five (5) business days. Once repaired and tested, the parts are shipped back to your dealership via UPS Ground.

If a part is not repairable, the APRF will contact your dealership, and Canon USA's Warranty Control Section will issue a credit to your account.

To check the status of your part, please contact the APRF.

The Repairable Parts List index is in the Warranty section of the e-Support Center Web site at http://www.support.cusa.canon.com Select from the Repairable Parts List, as shown below, for the most current list.

Figure 5 – e-Support: Authorized Parts Repair Facilities

<u>Warranty Parts over $300.00 that are not on the Repairable Parts List</u>

All original defective parts with a dealer cost valued over $300.00, that are not specified on the Repairable Parts List, must be submitted to Canon Virginia, Inc. with a completed e-Tag warranty claim form, and a handwritten or computer-generated copy of the machine's service history.

Canon Virginia, Inc.
12000 Canon Boulevard
Newport News, VA 23606
Attention: Warranty Returns

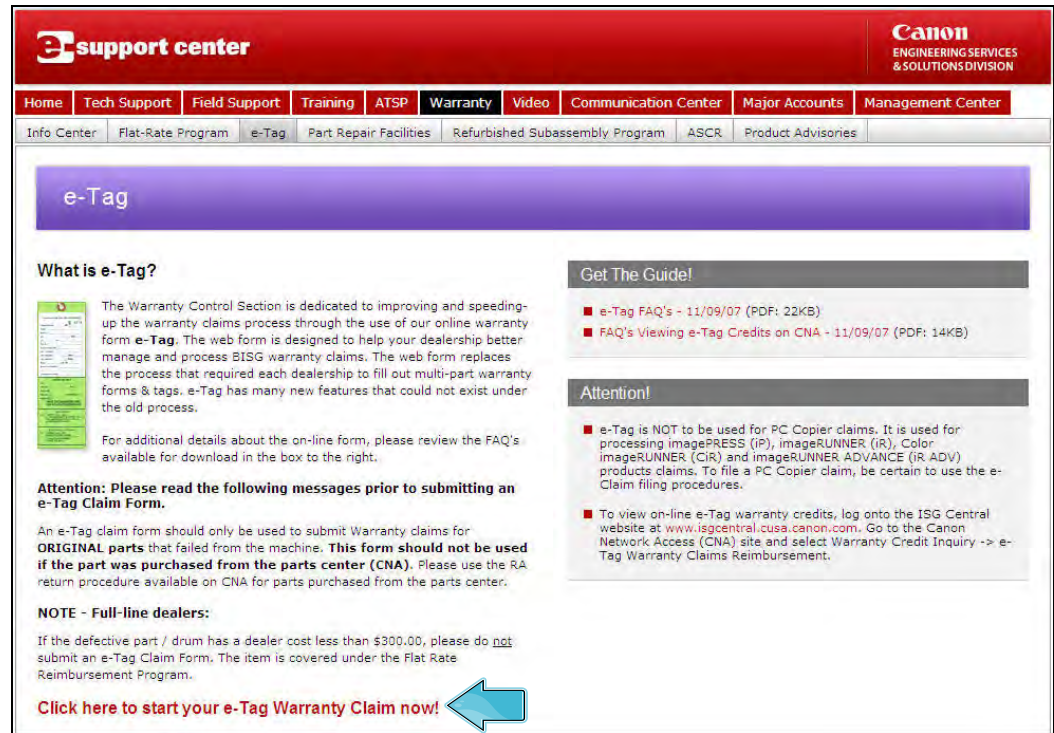The service history log must include the following:

- Dealer Name
- Machine's Installation Date
- Machine's Serial Number
- Part Number
- Work Performed (Highlight Current Service Call)
- Part Description
- Date Part Was Removed
- Machine Copy Count
- Reason for Removal

5. e-Tag

e-Tag is an electronic limited warranty claim form that is completed online, printed out, and accompanied by the original defective part or defective drum that is being returned to the Warranty Control Section for warranty compensation.
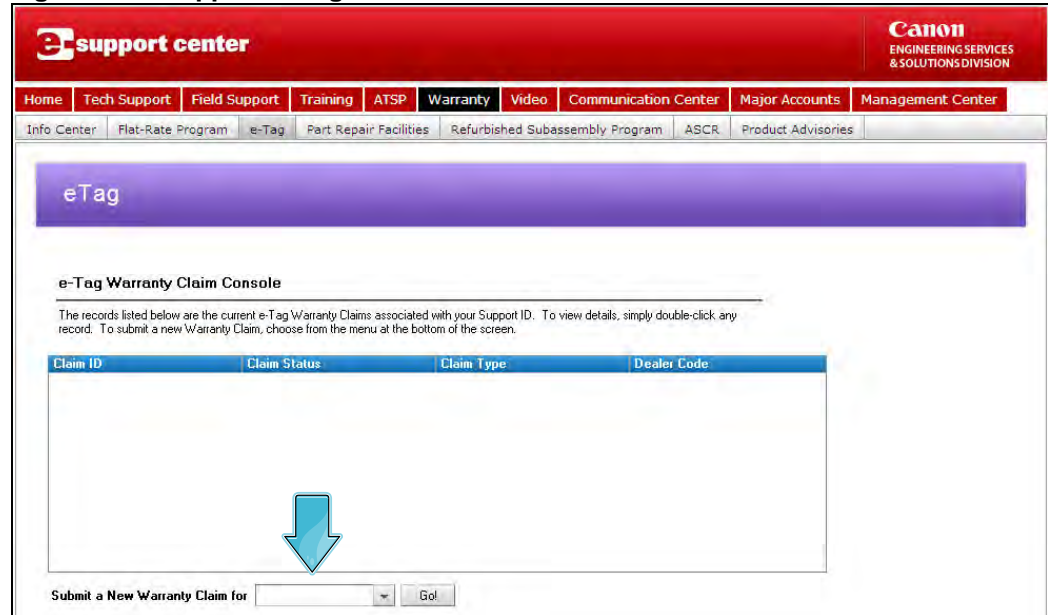
The e-Tag warranty claim form can be accessed in the Warranty section of the e-Support Center Web site at http://www.support.cusa.canon.com.

Figure 6 － e-Support: e-Tag

To submit a new warranty claim, select the type of claim from the drop-down list, shown below, and complete the required sections of the e-Tag limited warranty claim form.

Figure 7 ─ e-Support: e-Tag Claim Console

A copy of the e-Tag warranty claim form and the machine's service history must be returned with the original defective parts to the address provided on the bottom of the e-Tag warranty claim form.

The service history log can be handwritten or computer-generated, and must include the following information:

- Dealer Name
- Machine's Installation Date
- Machine's Serial Number
- Part Number
- Work Performed (Highlight Current Service Call)
- Part Description
- Date Part Was Removed
- Machine Copy Count
- Reason for Removal

For defective drums, ship the drum to the address provided on the bottom of the e-Tag warranty claim form, accompanied by a copy of the e-Tag warranty claim form, the machine's service history log, a "before" sample copy that depicts the problem, and an "after" sample copy that shows that the problem has been resolved.

After a claim form is authorized, parts, drums, and labor credits are posted on the CNA Web site the following business day.

6. Online Limited Warranty Credit Inquiry

The Online Warranty Credit Inquiry enables your dealership to check, download, and print the details of your e-Tag and Flat-Rate Program credits on the CNA (Canon Network Access) Web site.

a. e-Tag Inquiry

To view your e-Tag warranty claim credits online, log on to the ISG Central Web site at http://www.isgcentral.cusa.canon.com, and select "Canon Network Access (CNA)", as shown below.

Figure 8 ─ ISG Central

On the CNA Web site, select "Warranty Credit Inquiry", and then select "e-Tag Warranty Claims Reimbursement" to perform an e-Tag Warranty claims search, as shown in the following screen shots.

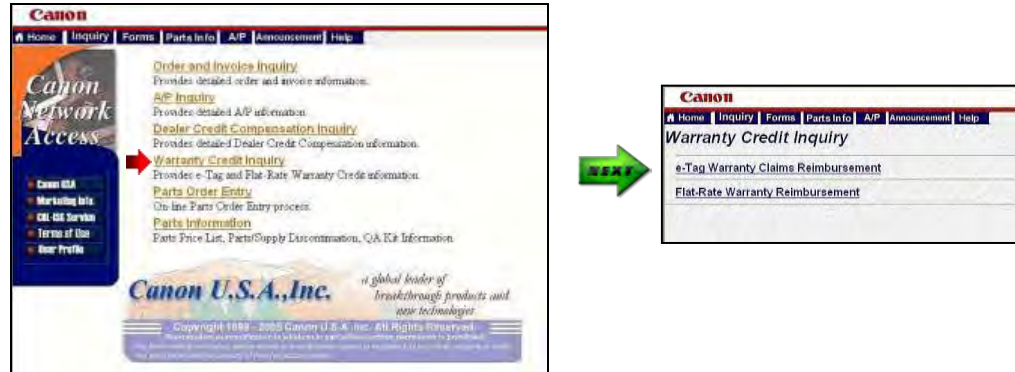**Figure 9 ─ CNA: Warranty Credit Inquiry**

Figure 10 ─ CNA: e-Tag Warranty Claims Search

<u>To check the status of the e-Tag warranty claims already submitted:</u>

Go to the e-Tag Warranty Claim Console, as shown at the bottom of the screen shot in <u>Figure 7 – e-Support: e-Tag Claim Console</u>. This console enables you to check the status of your claims. To view the details of the e-Tag limited warranty claim form, double-click any record.

Note: e-Tag warranty claims are connected to the e-Support ID number that is entered. Therefore, it is highly recommended that only one person enter and manage the e-Tag warranty claims from your dealership.

b. Flat-Rate Inquiry

To view your Flat-Rate warranty reimbursements online, log on to the ISG Central Web site at http://www.isgcentral.cusa.canon.com, and select "Canon Network Access (CNA)", as shown below.

Figure 11 ─ ISG Central

On the CNA Web site, select "Warranty Credit Inquiry", and then select "Flat-Rate Warranty Reimbursement" to perform a Flat-Rate Warranty claims search, as shown in the following screen shots.

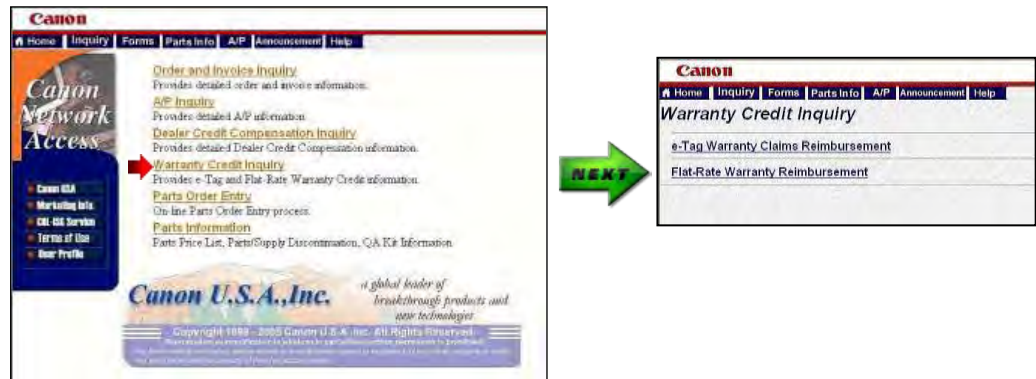**Figure 12 ─ CNA: Warranty Credit Inquiry**

Figure 13 – CNA: Flat-Rate Warranty Reimbursement Search

XI. Product Technical Support Offerings

A. Dealer Support Requirements

imageRUNNER ADVANCE C2200 Series Technical Training is required to receive technical support for these machines. Refer to the Canon USA Technical Support Center section for further details.

To ensure that every dealer receives the highest level of support and help to resolve the end user's problems quickly and accurately, we recommend the following to maximize your technical support request:

- Your support personnel should check technical documentation (User Manuals, Technical Publications, etc.) and the e-Support Web site (24 hours a day, 7 days a week) before calling Canon USA's TSC (Technical Support Center), since your concern may have already been addressed and documented.

- Have your Support ID number ready when you call the TSC, and make sure that you are where the engine or application is located and accessible. This dramatically improves the TSC's ability to help troubleshoot the problem, and eliminate the "guesswork" when answering a specific question. This also helps to supply you with answers that are more accurate.

- Provide the serial number of the installed engine or application you want to troubleshoot. While the serial number is required to access support, it also provides the Support Specialist with information about previous calls for support.

- Make sure to provide environment-specific information, and any other site-specific variables.

- Submit and update your profile information, such as cell phone number, e-mail address, and company address on the e-Support Web site in the Current Profile section. You can also call Canon USA's TSC. Accurate profile information enables you to contact support personnel faster, and is necessary, if more information is required from the caller later.

- At the completion of each call, a ticket number is provided. If the Support Specialist does not provide a number, the caller should ask for it.

- Have a Dealer Technician or Systems Engineer call Canon USA with what resolved your issue. This information is helpful, and enables a Support Specialist to assist other callers who may have the same problem.

B. Canon USA Support Offerings

The following support offerings were established to deliver high-quality, timely technical support services, and product information to Canon dealerships. These support services cover areas, such as system and user software, networking and connectivity issues, electro-mechanical operations, and other hardware servicing.

1. Canon USA Technical Support Center

Canon USA provides a time-sensitive call escalation process for all authorized imageRUNNER ADVANCE C2200 Series dealers. The TSC is the single-point of entry for this process. Once a call is placed to the TSC and information is logged into the call management system, a case number is assigned to the call. Every effort is made to resolve the problem during the call. Calls that cannot be resolved during the initial call and require escalation, must follow the process below. The status of all escalated cases can be viewed via e-Support or by calling the TSC.

Canon USA's TSC support responsibilities are as follows:
- The contracted servicing dealer solely provides all technical support for the end-user.
- The Canon USA TSC is the central contact/escalation for the reporting of all known outstanding hardware and software issues to Canon USA's engineering and software development groups.
- The Canon USA TSC is available to all Authorized Dealers, Systems Engineers, and Technicians who have successfully completed the training program.
- The TSC provides technical information regarding all Canon associated hardware and software products.
- The TSC deploys, as required through proper escalation procedures, all on-site Canon USA Digital Solutions Specialists and Systems Engineers.

Table 26 – Canon USA Support Escalation Flow Chart
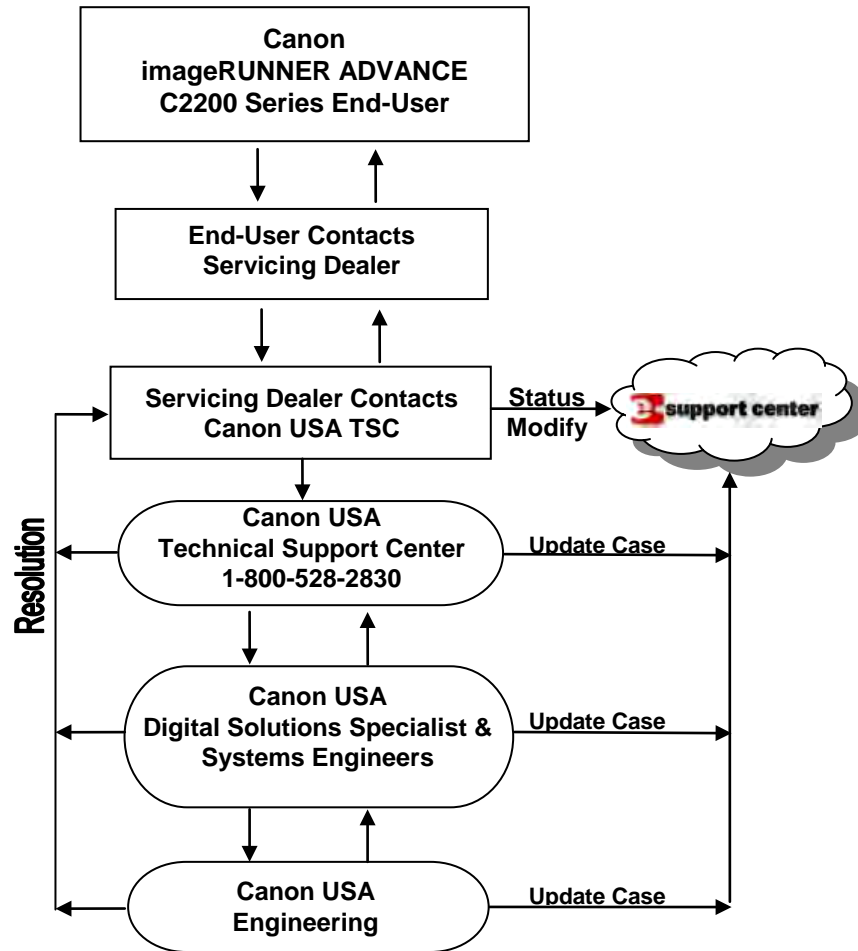
2. NAVI

NAVI is a computer-based application that is designed to function as both an information resource and diagnostic tool for Canon dealership technicians (equipped with a laptop) or dealer in-house help desk environments.

Figure 14 – NAVI: Login Screen

Figure 15 – NAVI: Main Screen

a. Benefits

- Improves the time to resolution for the more challenging technical situations faced in the field.
- Increases customer satisfaction by increasing the number of first visit problem resolutions, thereby reducing the number of required second visits.
- Reduces the chances of incorrect or unnecessary parts usage with NAVI's diagnostic abilities and reference information.
- Enables device engine reporting to aid in service costs forecasting.

b. Features

- Detects the device's engine status.
- Enables you to research a knowledge base of known problem case data to solve a current machine problem when connected directly to the machine or offline (connection to the machine has not been established).
- Provides access to model servicing information, such as work procedures and electromechanical component references.
- Provides a link to Canon Technical Documentation, which is offered to dealers for sale on a CD-ROM.
- Provides a link to Canon Service Tools, such as the SST (Service Support Tool) and PDL Downloader.
- Enables you to access the machine's Service Mode from a computer running the NAVI application, and perform the Auto Reset function (returns all machine settings back to their initial or default values).
- Enables you to adjust the machine's error and jam thresholds.
- Enables you to lookup replacement parts via a Web browser.
- Provides access to Knowledge PAKS (on the e-Support Web site), which enables you to download offline technical reference documents. See Figure 16 – e-Support: Knowledge PAKS.

Figure 16 – e-Support: Knowledge PAKS

c. **Getting Started with NAVI**

i. **Participate in Training**

The NAVI e-Learning course is available on e-Support for those technicians who have computer skills and use the SST. The NAVI e-Learning course is interactive, and contains guided simulations that show the technician how to use NAVI to service, maintain, and troubleshoot Canon devices. Technicians taking the NAVI e-Learning course will also learn how to make NAVI an integral part of their tool kit.

After the successful completion of the NAVI e-Learning course, technicians can begin to use NAVI as the tool to help them resolve field issues in a timely manner.

ii. Get the NAVI Files

There are two ways to get the files to start using NAVI:

- Download the necessary files from the e-Support Web site free-of-charge. It is recommended to download these files via a high-speed Internet connection, as the files are large.
- Purchase the NAVI Catch-Up CD Set. The Catch-Up CD Set contains the basic NAVI program, documentation, and model files to add previously introduced models to a computer with NAVI installed.

iii. Install NAVI and Use the Program

Use the following procedure to install and use NAVI:

- Install the core NAVI program and any patches.
- Add model support, as necessary.
- Add any updated model case data.
- If you have previously issued technical documentation on CD-ROMs, you can link these files with NAVI.

d. Updates

Continuous updates to each imageRUNNER ADVANCE model's Update Data Pack are available for download from the e-Support Web site free-of-charge.

e. NAVI Support

For additional details and information on NAVI, refer to the NAVI mini-home page on the e-Support Web site, located in the "Tech Support" tab.

Figure 17 – e-Support: NAVI's Mini-Home Page

3. Internet Support

a. Canon USA's e-Support Center Web Site

Canon USA's Systems and Technical Support Division provides high-quality e-Support via the Internet, and is only available for Canon USA's Authorized Servicing Dealers.

Canon USA's e-Support is designed to provide Systems Engineers and Technicians access to technical support information via the Worldwide Web.

The following functions and information can be accessed:

- Proactive notification of new releases, patches, Technical Publications, and other information via e-mail message
- Search for technical solutions with the Integrated Knowledge Management System through a natural language query
- Read or download on-line documentation
- Download patches and their Readme files
- Download firmware and software drivers
- Track and modify logged cases
- Review all open cases

To access e-Support, you must first register for an e-Support ID Number. To register for an e-Support ID number, go to the Canon USA's e-Support Center Web site at http://www.support.cusa.canon.com. Click on the "Register" button, and follow the instructions. This service is available at no additional charge to all authorized dealers.

Figure 18 – e-Support: Login Screen
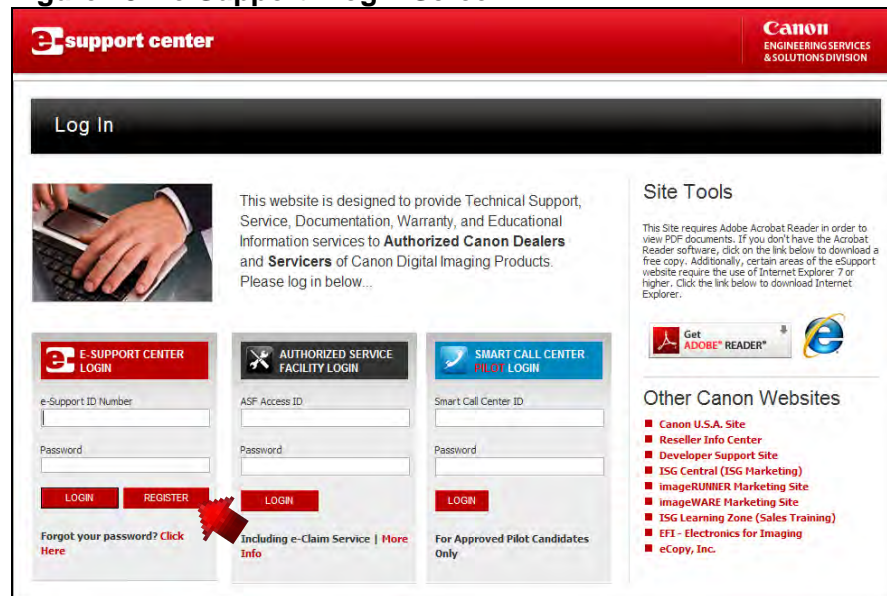
b. Canon USA's ISG Central Web Site

Complete Service Guide versions are available on the Canon USA's ISG Central Web site (http://isgcentral.cusa.canon.com).

Access is limited to an Authorized Dealer's Management staff. Please contact your Dealer System Administrator to request access to the Systems and Technical Support section of ISG Central.

Figure 19 – ISG Central: Login Screen
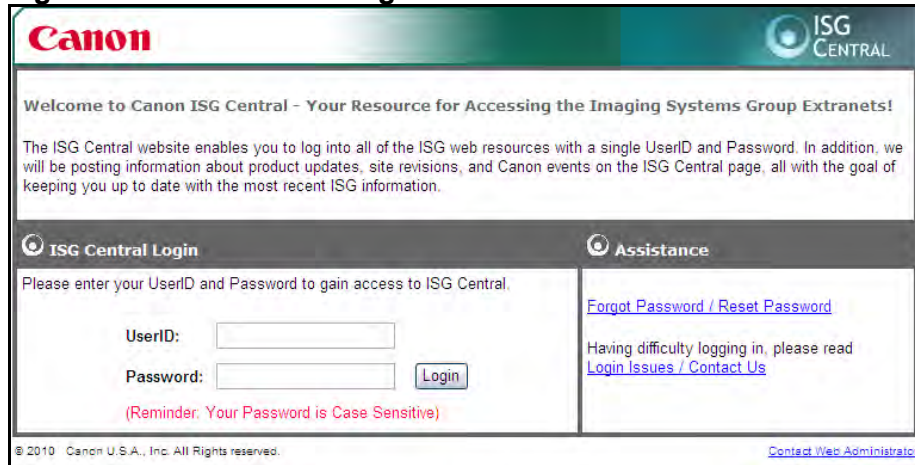
When an end-user logs on to the ISG Central Web site, he/she must select the "Systems and Technical Support" button to access the Service Guides area of the Web site, as shown below.

Figure 20 – ISG Central: Systems and Technical Support Web Page

Figure 21 – ISG Central: Systems and Technical Support Service Guides Area
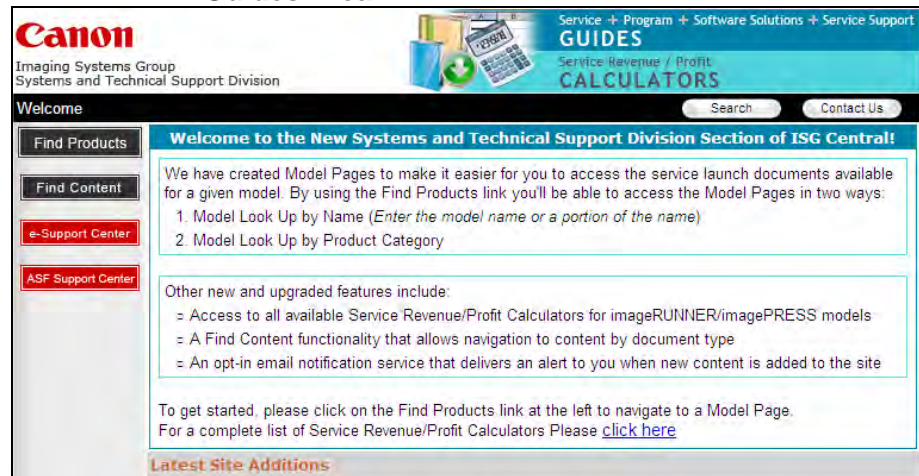
XII. Appendix

A. Specifications

Note: All specifications are for reference purposes only, and are subject to change without notice.

Table 27 – imageRUNNER ADVANCE C2200 Series Main Unit Specifications

Item		Specifications	
		imageRUNNER ADVANCE	
		C2230	C2225
Type		Desktop	
Developing System		Dry Dual Component Toner Projection System	
Fixing System		On-Demand	
Printer Memory		2 GB RAM	
Hard Disk Drive		160 GB	
First Copy Output Time (LTR)	Full Color	Up to 8.9 seconds	
	B&W	Up to 5.9 seconds	
Warm Up Time (at a room temp. of 68°F (20°C))	From Power ON[2]	Quick Startup Settings for Main Power is set to 'Off': Up to 34 seconds Quick Startup Settings for Main Power is set to 'On': Up to 7 seconds	
	From Sleep Mode	Up to 10 seconds	
Resolution for Writing		Up to 1,200 dpi x 1,200 dpi	
Resolution for Reading		Up to 600 dpi x 600 dpi	
Halftone		256 Gradations	
Acceptable Originals		Sheet, book, three-dimensional objects (up to 4 lb (2 kg))	
Paper Sizes	Paper Drawer 1	11" x 17", LTR, and EXEC	
	Paper Drawer 2	12" x 18", 11" x 17", LGL, LTR, LTRR, STMTR, EXEC, Custom Size (5 1/2" x 7 1/8" to 12" x 15 3/8" (140 mm x 182 mm to 304.8 mm x 391 mm)), and Envelopes	
	Multi-Purpose Tray	12" x 18", 12 5/8" x 17 11/16", 11" x 17", LGL, LTR, LTRR, STMTR, STMT, EXEC, Custom Size (3 7/8" x 5 1/2", to 12 5/8" x 18" (99 mm x 139.7 mm to 320 mm x 457.2 mm)), and Envelopes[46]	

2   Even if the Quick Startup Settings for Main Power mode is set to 'On', the Warm-Up time may be longer, depending on the conditions under which the machine is used.

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46   Kakugata 2 envelopes can only be loaded horizontally.

Table 27 – imageRUNNER ADVANCE C2200 Series Main Unit Specifications Continued

Item		Specifications	
		imageRUNNER ADVANCE	
		C2230	**C2225**
Paper Weight/Type	Paper Drawer 1	Weight: 17 to 32 lb bond (64 to 120 g/m^2) Type: Thin, Plain 1 (18 to 20 lb bond (65 to 80 g/m^2)), Plain 2 (22 to 26 lb bond (83 to 99 g/m^2)), Plain 3 (27 to 28 lb bond (100 to 105 g/m^2)), Recycled, Color, Pre-Punched, Bond, and Heavy 1 (29 to 32 lb bond (106 to 120 g/m^2))	
	Paper Drawer 2	Weight: 17 lb bond to 60 lb cover (64 to 163 g/m^2) Type: Thin, Plain 1 (18 to 20 lb bond (65 to 80 g/m^2)), Plain 2 (22 to 26 lb bond (83 to 99 g/m^2)), Plain 3 (27 to 28 lb bond (100 to 105 g/m^2)), Recycled, Color, Pre-Punched, Bond, Heavy 1 (29 to 32 lb bond (106 to 120 g/m^2)), Heavy 2 (33 lb bond to 60 lb cover (121 to 163 g/m^2)), Transparencies, and Envelopes	
	Multi-Purpose Tray	Weight: 17 lb bond to 80 lb cover (64 to 220 g/m^2) Type: Thin, Plain 1 (18 to 20 lb bond (65 to 80 g/m^2)), Plain 2 (22 to 26 lb bond (83 to 99 g/m^2)), Plain 3 (27 to 28 lb bond (100 to 105 g/m^2)), Recycled, Color, Pre-Punched, Bond, Heavy 1 (29 to 32 lb bond (106 to 120 g/m^2)), Heavy 2 (33 lb bond to 60 lb cover (121 to 163 g/m^2)) Heavy 3 (61 to 80 lb cover (164 to 220 g/m^2)), Tracing, Coated, Labels, Transparencies, and Envelopes	
Paper Capacity	Paper Drawer 1	Approximately 640 sheets (17 lb bond (64 g/m^2)) Approximately 520 sheets (20 lb bond (80 g/m^2))	
	Paper Drawer 2	Approximately 680 sheets (17 lb bond (64 g/m^2)) Approximately 550 sheets (20 lb bond (80 g/m^2))	
	Multi-Purpose Tray	Approximately 100 sheets (20 lb bond (80 g/m^2))	
Copy Speed[47] (Except When Paper Is Fed from the Multi-Purpose Tray) (Sheets/Minute)	12" x 18"	7	7
	11" x 17"	15	15
	LGL	15	15
	LTR	30	25
	LTRR	20	20
	EXEC	30	25
	STMTR	30	25
Margin		Top: 1/8" (4.0 mm) Left/Right: 1/8" (2.5 mm) Bottom: 1/8" (2.5 mm)	
Multiple Copies		1 to 999 sheets	
Magnification	Reduction	1:0.78 (LGL → LTR) 1.0.73 (11" x 17" → LGL, 11" x 15" → LTR) 1.0.64 (11" x 17" → LTR) 1.0.50 (11" x 17" → STMT) 1.0. 25	
	Enlargement	1.1.21 (LGL → 11" x 17") 1.1.29 (LTR → 11" x 17") 1.2.00 (STMT → 11" x 17") 1.4.00	
	Copy Ratio	25% to 400% (in 1% increments)	

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47 The copy speed may vary, depending on the settings for the paper type, paper size, and sending method. Copying continuously may slow the copy speed, as adjustments are made to the machine's temperature and image quality.

Table 27 – imageRUNNER ADVANCE C2200 Series Main Unit Specifications Continued

Item		Specifications	
		imageRUNNER ADVANCE	
		C2230	C2225
Power Requirements		120 to 127 V AC, 60 Hz, 7.5 A	
Plug		NEMA 5-15	
Power Consumption	Maximum	Approximately 1.5 kW	
	In the Sleep Mode	Approximately 0.8 W	
	Main Power Is OFF	Quick Startup Settings for Main Power is set to 'On': Approximately 0.45 W Quick Startup Settings for Main Power is set to 'Off': Approximately 0.19 W	
Dimensions (H x W x D)		36 1/2" x 22 1/4" x 26 3/4" (928 mm x 565 mm x 680 mm)	
Weight		Approximately 198 lb (90 kg)	
Installation Space (W x D)		When the Multi-Purpose tray is extended: 33 3/8" x 26 3/4" (846 mm x 680 mm)	

Table 28 – Feeder (DADF-AJ1)

Item		Specifications
Original Feeding Mechanism		Automatic Document Feeder
Size and Weight of Originals	Size	11" x 17", LGL, LTR, LTRR, STMT, and STMTR
	Weight	1-sided scanning: 11 to 34 lb bond (42 to 128 g/m^2) 2-sided scanning 13 to 34 lb bond (50 to 128 g/m^2)
Original Tray Capacity		Up to 50 sheets (20 lb bond (80 g/m^2))
Original Scanning Speed (LTR, Sheets/Minute)	Copying	1-sided scanning (B&W/Full Color at 600 dpi): Approximately 30
	Scanning	1-sided scanning (B&W/Full Color at 300 dpi): Approximately 51
Power Source		From the main unit
Power Consumption		Approximately 30 W
Dimensions (H x W x D)		5 1/2" x 22 1/4" x 21 1/4" (138 mm x 565 mm x 540 mm)
Weight		Approximately 17.4 lb (7.9 kg)

Table 29 – Cassette Feeding Unit-AF1 (Optional) Specifications

Item	Specifications
Paper Sizes	12" x 18", 11" x 17", LGL, LTR, LTRR, STMTR, EXEC, and Custom Size (5 1/2" x 7 1/8" to 12" x 18" (140 mm x 182 mm to 304.8 mm x 457.2 mm))
Paper Drawer Capacity	550 sheets (20 lb bond (80 g/m^2)) 680 sheets (17 lb bond (64 g/m^2))
Power Source	From the main unit
Maximum Power Consumption	Approximately 30 W
Dimensions (H x W x D)	9 3/4" x 22 1/4" x 25 5/8" (248 mm x 565 mm x 650 mm)
Weight	Approximately 60.6 lb (27.5 kg)

Table 30 – Envelope Feeder Attachment-D1 (Optional) Specifications

Item	Specifications
Acceptable Envelopes	COM10 No. 10, Monarch, DL, and ISO-C5
Capacity	50 envelopes (or stacked to a height of 1 1/4" (30 mm))
Feeding Speed	COM10 No. 10: 10 cpm (copies per minute) Monarch, DL, ISO-C5: 12 cpm
Dimensions (H x W x D)	3 1/4" x 17 1/4" x 12 1/8" (81 mm x 439 mm x 307 mm)
Weight	Approximately 2.6 lb (1.2 kg)

Table 31 – Staple Finisher-M1 (Optional) Specifications

Item	Specifications

Paper Size/Weight/Type	Size:
	   12 5/8" x 17 11/16", 12" x 18", 11" x 17", LGL, LTR, LTRR, STMT, STMTR, EXEC, Custom Size (3 7/8" x 5 1/2", to 12 5/8" x 18" (99 mm x 139.7 mm to 320 mm x 457.2 mm)), and Envelopes
	
	Weight: 17 lb bond to 80 lb cover (64 to 220 g/m^2)
	
	Type:
	   Thin, Plain 1 (17 to 20 lb bond (64 to 80 g/m^2)), Plain 2 (22 to 26 lb bond (83 to 99 g/m^2)), Plain 3 (27 to 28 lb bond (100 to 105 g/m^2)), Color, Recycled, Pre-Punched, Bond, Heavy 1 (29 to 32 lb bond (106 to 120 g/m^2)), Heavy 2 (33 lb bond to 60 lb cover (121 to 163 g/m^2)), Heavy 3 (61 to 80 lb cover (164 to 220 g/m^2)), Tracing, Coated, Labels, Transparencies, and Envelopes[48]

Capacity Per Tray (Upper)	**No Finishing Modes, Collate, Group Mode Set**
	   LTR, EXEC, STMTR: 1,300 sheets (or 7 3/8" (188 mm) in height)
	
	   12" x 18", 11" x 17", LGL, LTRR:
	                          650 sheets (or 3 3/4" (96 mm) in height)
	
	Collate + Offset, Group + Offset Modes Set
	   LTR and EXEC: 1,300 sheets (or 7 3/8" (188 mm) in height)
	
	   11" x 17", LGL, LTRR: 650 sheets (or 3 3/4" (96 mm) in height)
	
	Staple Mode Set
	   LTR and EXEC: 1,300 sheets/30 sets (or 7 3/8" (188 mm) in height)
	
	   11" x 17", LGL, LTRR: 650 sheets/30 sets (or 3 3/4" (96 mm) in height)
	
	No Finishing Modes Set, Collate, Group Modes with Different Paper Sizes
	   650 sheets (or 3 3/4" (96 mm) in height)
	
	Staple Mode with Different Paper Sizes
	   650 sheets/30 sets (or 3 3/4" (96 mm) in height)

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48 Only envelopes that are placed horizontally can be output from the Staple Finisher-M1, Booklet Finisher-M1, and Inner Finisher-F1.

Table 31 – Staple Finisher-M1 (Optional) Specifications Continued

Item	Specifications
Capacity Per Tray (Lower)	**No Finishing Modes, Collate, Group Mode Set** LTR, EXEC, STMTR: 1,700 sheets (or 9 5/8" (243 mm) in height) 12" x 18", 11" x 17", LGL, LTRR: 650 sheets (or 3 3/4" (96 mm) in height) **Collate + Offset, Group + Offset Modes Set** LTR and EXEC: 1,700 sheets (or 9 5/8" (243 mm) in height) 11" x 17", LGL, LTRR: 650 sheets (or 3 3/4" (96 mm) in height) **Staple Mode Set** LTR and EXEC: 1,700 sheets/30 sets (or 9 5/8" (243 mm) in height) 11" x 17", LGL, LTRR: 650 sheets/30 sets (or 3 3/4" (96 mm) in height) **No Finishing Modes Set, Collate, Group Modes with Different Paper Sizes** 650 sheets (or 3 3/4" (96 mm) in height) **Staple Mode with Different Paper Sizes** 650 sheets/30 sets (or 3 3/4" (96 mm) in height)
Maximum Stapling Capacity/Available Staple Size[49]	**Corner Staple and Double Staple Modes:** LTR and EXEC: 50 sheets (17 to 21 lb bond (64 to 82 g/m^2)) 30 sheets (22 to 28 lb bond (83 to 105 g/m^2)) 2 sheets (29 lb bond to 80 lb cover (106 to 220 g/m^2)) 11" x 17", LGL, and LTRR: 30 sheets (17 to 21 lb bond (64 to 82 g/m^2)) 20 sheets (22 to 28 lb bond (83 to 105 g/m^2)) 2 sheets (29 lb bond to 80 lb cover (106 to 220 g/m^2))
Power Source	From the main unit
Maximum Power Consumption	Approximately 84 W
Dimensions (H x W x D)	43 1/4" x 26 1/2" x 25 1/2" (1,097 mm x 673 mm x 647 mm)
Weight	Approximately 101 lb (46 kg)
Installation Space (W x D) Including the Main Unit	62 1/8" x 26 3/4" (1,577 mm x 680 mm) (When the multi-purpose tray and auxiliary tray are extended)

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49   The maximum stapling capacity may vary, depending on the paper type and weight.

Table 32 – Booklet Finisher-M1 (Optional) Specifications

Item	Specifications
Paper Size/Weight/Type	Size: 12 5/8" x 17 11/16", 12" x 18", 11" x 17", LGL, LTR, LTRR, STMT, STMTR, EXEC, Custom Size (3 7/8" x 5 1/2", to 12 5/8" x 18" (99 mm x 139.7 mm to 320 mm x 457.2 mm)), and Envelopes Weight: 17 lb bond to 80 lb cover (64 to 220 g/m^2) Type: Thin, Plain 1 (17 to 20 lb bond (64 to 80 g/m^2)), Plain 2 (22 to 26 lb bond (83 to 99 g/m^2)), Plain 3 (27 to 28 lb bond (100 to 105 g/m^2)), Color, Recycled, Pre-Punched, Bond, Heavy 1 (29 to 32 lb bond (106 to 120 g/m^2)), Heavy 2 (33 lb bond to 60 lb cover (121 to 163 g/m^2)), Heavy 3 (61 to 80 lb cover (164 to 220 g/m^2)), Tracing, Coated, Labels, Transparencies, and Envelopes[48]
Capacity Per Tray (Upper)	**No Finishing Modes, Collate, Group Mode Set** LTR, EXEC, STMTR: 1,300 sheets (or 7 3/8" (188 mm) in height) 12" x 18", 11" x 17", LGL, LTRR: 650 sheets (or 3 3/4" (96 mm) in height) **Collate + Offset, Group + Offset Modes Set** LTR and EXEC: 1,300 sheets (or 7 3/8" (188 mm) in height) 11" x 17", LGL, LTRR: 650 sheets (or 3 3/4" (96 mm) in height) **Staple Mode Set** LTR and EXEC: 1,300 sheets/30 sets (or 7 3/8" (188 mm) in height) 11" x 17", LGL, LTRR: 650 sheets/30 sets (or 3 3/4" (96 mm) in height) **No Finishing Modes Set, Collate, Group Modes with Different Paper Sizes** 650 sheets (or 3 3/4" (96 mm) in height) **Staple Mode with Different Paper Sizes** 650 sheets/30 sets (or 3 3/4" (96 mm) in height)
Capacity Per Tray (Lower)	**No Finishing Modes, Collate, Group Mode Set** LTR, EXEC, STMTR: 1,700 sheets (or 9 5/8" (243 mm) in height) 12" x 18", 11" x 17", LGL, LTRR: 650 sheets (or 3 3/4" (96 mm) in height) **Collate + Offset, Group + Offset Modes Set** LTR and EXEC: 1,700 sheets (or 9 5/8" (243 mm) in height) 11" x 17", LGL, LTRR: 650 sheets (or 3 3/4" (96 mm) in height) **Staple Mode Set** LTR and EXEC: 1,700 sheets/30 sets (or 9 5/8" (243 mm) in height) 11" x 17", LGL, LTRR: 650 sheets/30 sets (or 3 3/4" (96 mm) in height) **No Finishing Modes Set, Collate, Group Modes with Different Paper Sizes** 650 sheets (or 3 3/4" (96 mm) in height) **Staple Mode with Different Paper Sizes** 650 sheets/30 sets (or 3 3/4" (96 mm) in height)

48   Only envelopes that are placed horizontally can be output from the Staple Finisher-M1, Booklet Finisher-M1, and Inner Finisher-F1.

Table 32 – Booklet Finisher-M1 (Optional) Specifications Continued

Item	Specifications

Maximum Stapling Capacity/Available Staple Size[49]	**Corner Staple and Double Staple Modes:**
	LTR and EXEC:
	   50 sheets (17 to 21 lb bond (64 to 82 g/m^2))
	   30 sheets (22 to 28 lb bond (83 to 105 g/m^2))
	   2 sheets (29 lb bond to 80 lb cover (106 to 220 g/m^2))
	
	11" x 17", LGL, and LTRR:
	   30 sheets (17 to 21 lb bond (64 to 82 g/m^2))
	   20 sheets (22 to 28 lb bond (83 to 105 g/m^2))
	   2 sheets (29 lb bond to 80 lb cover (106 to 220 g/m^2))

Maximum Saddle Stitch Capacity/Size	Size:
	   12" x 18", 11" x 17", LGL, and LTRR
	
	Saddle Stitch:
	   11 to 16 sheets (17 to 21 lb bond (64 to 82 g/m^2))
	   6 to 10 sheets (22 to 28 lb bond (83 to 105 g/m^2))
	   1 to 5 sheets (29 lb bond to 80 lb cover (106 to 220 g/m^2))
	
	Saddle Fold: 1 sheet (17 lb bond 80 lb cover (64 to 220 g/m^2))

Power Source	From the main unit
Maximum Power Consumption	Approximately 118 W
Dimensions (H x W x D)	43 1/4" x 31" x 25 7/8" (1,097 mm x 786 mm x 656 mm) (When the auxiliary tray is extended)
Weight	Approximately 165 lb (75 kg)
Installation Space Including the Main Unit (W x D)	66 1/2" x 26 3/4" (1,689 mm x 680 mm) (When the multi-purpose tray and auxiliary tray are extended)

49 The maximum stapling capacity may vary, depending on the paper type and weight.

Table 33 – Inner Finisher-F1 (Optional) Specifications

Item	Specifications

Paper Size/Weight/Type	Size:
	   12 5/8" x 17 11/16", 12" x 18", 11" x 17", LGL, LTR, LTRR, STMT, STMTR, EXEC, Custom Size (3 7/8" x 5 1/2", to 12 5/8" x 18" (99 mm x 139.7 mm to 320 mm x 457.2 mm)), and Envelopes
	
	Weight: 17 lb bond to 80 lb cover (64 to 220 g/m^2)
	
	Type:
	   Thin, Plain 1 (17 to 20 lb bond (64 to 80 g/m^2)), Plain 2 (22 to 26 lb bond (83 to 99 g/m^2)), Plain 3 (27 to 28 lb bond (100 to 105 g/m^2)), Color, Recycled, Pre-Punched, Bond, Heavy 1 (29 to 32 lb bond (106 to 120 g/m^2)), Heavy 2 (33 lb bond to 60 lb cover (121 to 163 g/m^2)), Heavy 3 (61 to 80 lb cover (164 to 220 g/m^2)), Tracing, Coated, Labels, Transparencies, and Envelopes[48]

48   Only envelopes that are placed horizontally can be output from the Staple Finisher-M1, Booklet Finisher-M1, and Inner Finisher-F1.

Table 33 – Inner Finisher-F1 (Optional) Specifications Continued

Item	Specifications

Capacity Per Tray (Standard Tray)	**No Finishing Modes, Collate, Group Mode Set**
	LTR, EXEC, STMT, STMTR:
	  750 sheets (or 3 3/4" (94 mm) in height)
	
	12" x 18", 12 5/8" x 17 11/16", 11" x 17", LGL, LTRR:
	  500 sheets (or 2 1/2" (62.5 mm) in height)
	
	Collate + Offset, Group + Offset Modes Set
	LTR: 750 sheets (or 3 3/4" (94 mm) in height)
	
	11" x 17", LGL, LTRR: 350 sheets (or 1 3/4" (44 mm) in height)
	
	Staple Mode Set
	LTR: 30 sets (or 3 3/4" (94 mm) in height)
	
	11" x 17", LGL, LTRR: 30 sets (or 1 3/4" (44 mm) in height)
	
	No Finishing Modes Set, Collate, Group Modes with Different Paper Sizes
	  350 sheets (or 1 3/4" (44 mm) in height)
	
	Staple Mode with Different Paper Sizes
	  30 sets (or 1 3/4" (44 mm) in height)

Capacity Per Tray (Inner Finisher Additional Tray-A1)	**No Finishing Modes, Collate, Group, Collate + Offset, Group + Offset Modes Set**
	
	12" x 18", 12 5/8" x 17 11/16", 11" x 17", LGL, LTR, LTRR, STMT, STMTR, and EXEC:
	  100 sheets (or 1/2" (12.5 mm) in height)
	
	Staple Mode Set
	
	11" x 17", LGL, LTR, LTRR:
	  15 sets (or 3/8" (8.1 mm) in height)
	
	No Finishing Modes Set, Collate, Group Modes with Different Paper Sizes
	  100 sheets (or 1/2" (12.5 mm) in height)
	
	Staple Mode with Different Paper Sizes
	  15 sets (or 3/8" (8.1 mm) in height)

Maximum Stapling Capacity/Available Staple Size[49]	**Corner Staple and Double Staple Modes:**
	LTR:
	  50 sheets (17 to 21 lb bond (64 to 82 g/m^2))
	  30 sheets (22 to 28 lb bond (83 to 105 g/m^2))
	  2 sheets (29 lb bond to 80 lb cover (106 to 220 g/m^2))
	
	11" x 17", LGL, and LTRR:
	  30 sheets (17 to 21 lb bond (64 to 82 g/m^2))
	  20 sheets (22 to 28 lb bond (83 to 105 g/m^2))
	  2 sheets (29 lb bond to 80 lb cover (106 to 220 g/m^2))

Power Source	From the main unit
Maximum Power Consumption	Approximately 39 W
Dimensions (H x W x D)	10 1/4" x 23 1/4" x 21 5/8" (260 mm x 590 mm x 550 mm) (When the auxiliary tray is extended)
Weight	Approximately 31 lb (14 kg) (When the optional Inner Finisher Additional Tray-A1 is attached)
Installation Space Including the Main Unit (W x D)	40 1/4" x 26 3/4" (1,021 mm x 680 mm) (When the multi-purpose tray and auxiliary tray are extended)

49   The maximum stapling capacity may vary, depending on the paper type and weight.

Table 34 – Inner Finisher Additional Tray-A1 (Optional) Specifications

Item	Specifications
Paper Size/Weight/Type	Size: 12 5/8" x 17 11/16", 12" x 18", 11" x 17", LGL, LTR, LTRR, STMT, STMTR, EXEC, Custom Size (3 7/8" x 5 1/2", to 12 5/8" x 18" (99 mm x 139.7 mm to 320 mm x 457.2 mm)), and Envelopes Weight: 17 lb bond to 80 lb cover (64 to 220 g/m^2) Type: Thin, Plain 1 (17 to 20 lb bond (64 to 80 g/m^2)), Plain 2 (22 to 26 lb bond (83 to 99 g/m^2)), Plain 3 (27 to 28 lb bond (100 to 105 g/m^2)), Color, Recycled, Pre-Punched, Bond, Heavy 1 (29 to 32 lb bond (106 to 120 g/m^2)), Heavy 2 (33 lb bond to 60 lb cover (121 to 163 g/m^2)), Heavy 3 (61 to 80 lb cover (164 to 220 g/m^2)), Tracing, Coated, Labels, Transparencies, and Envelopes[48]
Capacity Per Tray	**No Finishing Modes, Collate, Group, Collate + Offset, Group + Offset Modes Set** 12" x 18", 12 5/8" x 17 11/16", 11" x 17", LGL, LTR, LTRR, STMT, STMTR, and EXEC: 100 sheets (or 1/2" (12.5 mm) in height) **Staple Mode Set** 11" x 17", LGL, LTR, LTRR: 15 sets (or 3/8" (8.1 mm) in height) **No Finishing Modes Set, Collate, Group Modes with Different Paper Sizes** 100 sheets (or 1/2" (12.5 mm) in height) **Staple Mode with Different Paper Sizes** 15 sets (or 3/8" (8.1 mm) in height)
Dimensions (H x W x D)	2 3/4" x 15" x 17 3/4" (70 mm x 382 mm x 450 mm)
Weight	Approximately 3 lb (1.4 kg)

48 Only envelopes that are placed horizontally can be output from the Staple Finisher-M1, Booklet Finisher-M1, and Inner Finisher-F1.

Table 35 – Inner 2Way Tray-F1 (Optional) Specifications

Item	Specifications
Paper Size/Weight/Type	Size: 12 5/8" x 17 11/16", 12" x 18", 11" x 17", LGL, LTR, LTRR, STMT, STMTR, EXEC, Custom Size (3 7/8" x 5 1/2", to 12 5/8" x 18" (99 mm x 139.7 mm to 320 mm x 457.2 mm)), and Envelopes Weight: 17 lb bond to 80 lb cover (64 to 220 g/m^2) Type: Thin, Plain 1 (17 to 20 lb bond (64 to 80 g/m^2)), Plain 2 (22 to 26 lb bond (83 to 99 g/m^2)), Plain 3 (27 to 28 lb bond (100 to 105 g/m^2)), Color, Recycled, Pre-Punched, Bond, Heavy 1 (29 to 32 lb bond (106 to 120 g/m^2)), Heavy 2 (33 lb bond to 60 lb cover (121 to 163 g/m^2)), Heavy 3 (61 to 80 lb cover (164 to 220 g/m^2)), Tracing, Coated, Labels, Transparencies, and Envelopes

Capacity Per Tray	Tray A:
	  LTR, STMT, Envelopes:
	    250 sheets (20 lb bond (80 g/m^2))
	
	  STMR:
	    150 sheets (20 lb bond (80 g/m^2))
	
	  12" x 18", 12 5/8" x 17 11/16", 11" x 17", LGL, LTR, LTRR, STMTR, EXEC, Custom Size (3 7/8" x 5 1/2", to 12 5/8" x 18" (99 mm x 139.7 mm to 320 mm x 457.2 mm)):
	    100 sheets (20 lb bond (80 g/m^2))
	
	Tray B:
	  12" x 18", 12 5/8" x 17 11/16", 11" x 17", LGL, LTR, LTRR, STMT, STMTR, EXEC, Custom Size (3 7/8" x 5 1/2", to 12 5/8" x 18" (99 mm x 139.7 mm to 320 mm x 457.2 mm)), and Envelopes[50]:
	    100 sheets (20 lb bond (80 g/m^2))

Dimensions (H x W x D)	3" x 16 3/4" x 16" (76 mm x 426 mm x 407 mm)
Weight	Approximately 1 lb (574 g)
Installation Space Including the Main Unit (W x D)	33 3/8" x 26 3/4" (846 mm x 680 mm) (When the multi-purpose tray and auxiliary tray are extended)

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[50] Envelopes must be placed horizontally to output them from Tray B.

Table 36 – Copy Tray-J1 (Optional) Specifications

Item	Specifications

Paper Size/Weight/Type	Size:
	   11" x 17", LGL, LTR, LTRR, STMTR, EXEC
	
	Weight: 17 lb bond to 32 lb cover (64 to 120 g/m^2)
	
	Type:
	   Thin, Plain 1 (17 to 20 lb bond (64 to 80 g/m^2)), Plain 2 (22 to 26 lb bond (83 to 99 g/m^2)), Plain 3 (27 to 28 lb bond (100 to 105 g/m^2)), Color, Recycled, Pre-Punched, Bond, Heavy 1 (29 to 32 lb bond (106 to 120 g/m^2))

Capacity	LTR, STMTR, EXEC: 100 sheets (20 lb bond (80 g/m^2)) 11" x 17", LGL, LTRR: 75 sheets (20 lb bond (80 g/m^2))ok
Dimensions (H x W x D)	4 7/8" x 14 3/8" x 14 3/4" (124 mm x 365 mm x 373 mm) (When the auxiliary tray is extended) 3 1/2" x 9 5/8" x 14 3/4" (87 mm x 243 mm x 373 mm) (When the auxiliary tray is not extended)
Weight	Approximately 1 lb (574 g)
Installation Space Including the Main Unit (W x D)	35 7/8" x 26 3/4" (912 mm x 680 mm) (When the auxiliary tray is extended)

Table 37 – Copy Card Reader-F1 (Optional) Specifications

Item	Specifications
Available Cards	Magnetic
Card Readout Method	Magnetic readout
Magnetic Card Reading Direction	Face up
Store/Replay	Replay
Power Source	From the main unit
Dimensions (H x W x D)	1 5/8" x 3 1/2" x 3 3/4" (40 mm x 88 mm x 96 mm) (Excludes the attachment kit and cable)
Weight	Approximately 7.1 oz (200 g) (Including the attachment kit and cable)

Table 38 – Super G3 FAX Board-AH2 (Optional) Specifications

These specifications are the same even when the Super G3 2nd Line Fax Board is installed.

Item	Specifications
Telephone Line Used[51]	Public Switched Telephone Network
Scan Line Density (Scan, Transmission)	Normal: 8 pels[52]/mm x 3.85 line/mm Fine: 8 pels/mm x 7.7 line/mm Super-Fine: 8 pels/mm x 15.4 line/mm Ultra-Fine: 16 pels/mm x 15.4 line/mm
Transmission Speed	Super G3: 33.6 kbps G3: 14.4 kbps
Compression Method	MH, MR, MMR, JBIG
Transmission Type	Super G3, G3
Sending Original Sizes	11" x 17" to STMTR
Receiving Original Sizes	11" x 17" to STMTR
Transmission Times	ECM-MMR: Approximately 3.2 seconds G3 MR: Approximately 13 seconds G3 MH: Approximately 13 seconds JBIG: Approximately 2.6 seconds
Auto Dial Function	Address Book: 1,800 destinations (including destinations stored in one-touch buttons)
Image Memory	Approximately 6,000 pages

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51 When using an IP telephone service, facsimile communication via an IP telephone line, may not be performed normally. It is recommended to use a general telephone (Public Switched Telephone Network) line for facsimile communication.
52 Pels stands for picture elements (pixels).

Table 39 – Send Function: Scan Specifications

Item		Specifications
Communication Protocol		FTP (TCP/IP), SMB (TCP/IP), WebDAV
Data Format		TIFF, JPEG, PDF, XPS, OOXML (PowerPoint)
Resolution		100 x100 dpi, 150 x 150 dpi, 200 x 100 dpi, 200 x 200 dpi, 200 x 400 dpi, 300 x 300 dpi, 400 x 400 dpi, 600 x 600 dpi
System Environment		Windows 2000 Server (SP4), Windows XP Professional (SP3), Windows Vista (SP2), Windows 7, Windows Server 2003 R2 (SP2), Windows Server 2008 (SP2), Windows Server 2008 R2 (SP2) Mac OS X, 10.4.x, 10.5.x, 10.6.x, Red Hat Linux 9, Solaris 10
Interface		1,000Base-T, 100Base-TX, 10Base-T
Color Mode		Automatic-Color Select (Full Color/Grayscale), Automatic-Color Select (Full Color/Black-and-White), Full Color, Grayscale, Black-and-White
Original Type		Text, Text/Photo, Photo
Other		Preview, Browse Windows (SMB) File Server
Optional PDF/XPS/OOXML Functions	PDF	Compact, Trace and Smooth, Encryption, OCR, Device Signature, User Signature, Optimization for Web[53], PDF/A-1b, Reader Extensions, Policy Applied
	XPS	Compact, OCR, Device Signature, User Signature
	OOXML	PowerPoint, OCR

Table 40 – Send Function: E-Mail and I-Fax Specifications

Item		Specifications
Communication Protocol		SMTP, POP3
I-Fax Communication Mode		Simple, Full
Resolution	For Sending E-Mail	100 x100 dpi, 150 x 150 dpi, 200 x 100 dpi, 200 x 200 dpi, 200 x 400 dpi, 300 x 300 dpi, 400 x 400 dpi, 600 x 600 dpi
	For Sending I-Fax (B&W)	200 x 100 dpi, 200 x 200 dpi, 200 x 400 dpi[54], 300 x 300 dpi[54], 400 x 400 dpi[54], 600 x 600 dpi[54]
	For Sending I-Fax (Color)[54]	100 x 100 dpi, 200 x 200 dpi, 300 x 300 dpi, 400 x 400 dpi, 600 x 600 dpi
Format	E-Mail	TIFF, JPEG, PDF, XPS, OOXML (PowerPoint)
	I-Fax (B&W)	TIFF (MH, MR[54], MMR[54])
	I-Fax (Color)	TIFF (Profile-C)[54]
Original Size	E-Mail	11" x 17", LGL, LTR, LTRR, STMT, STMTR
	I-Fax	11" x 17", LGL[55], LTR, LTRR, STMT[55], STMTR[55]
Server Software		Microsoft Exchange 2003 and 2007 (SP2), Sendmail 8.14.4, Lotus Domino R7.0
Other		Search for a destination via an LDAP Server, Preview
Optional PDF/XPS/OOXML Functions (E-Mail Only)	PDF	Compact, Trace and Smooth, Encryption, OCR, Device Signature, User Signature, Optimization for Web[53], PDF/A-1b, Reader Extensions, Policy Applied
	XPS	Compact, OCR, Device Signature, User Signature
	OOXML	PowerPoint, OCR

53　PDF files optimized for Web viewing.
54　Available after setting the RX conditions for the destination.
55　Sent as LTR.

Table 41 – Connectivity and Software Specifications

Item		Specifications
Network Interface		1,000Base-T, 100Base-TX, 10Base-T (RJ-45)
TCP/IP	Frame Type	Ethernet II
	Print Applications	LPD, Raw, IPP, IPPS, FTP, WSD, SMB
IPX/SPX	Frame Type	Ethernet II, Ethernet 802.2, Ethernet 802.3, Ethernet SNAP, Auto Detect
	Print Applications	Bindery PServer, NDS PServer, RPrinter, NPrinter
AppleTalk	Frame Type	Ethernet SNAP
	Print Application	PAP (Printer Access Protocol)
Command Languages		PCL5c, PCL6, PostScript 3
Resident Fonts	PCL	93 Scalable fonts, 2 OCR fonts, and 10 Bitmap fonts
	PS	136 Scalable fonts
Printable Area	PCL5c, PCL6	Reduced to 1/6" (4.23 mm) from the top, bottom, left, and right edges of the paper.
	PostScript 3	Reduced to 1/6" (4 mm) from the top, bottom, left, and right edges of the paper.

Notes:

- If you are printing on 12 5/8" x 17 11/16" size paper, you cannot print in the 1/6" (4 mm) top and bottom areas, and the 1/4" (7.5 mm) left and right edges of the paper.
- When printing in the 0" mode (on paper other than 12 5/8" x 17 11/16"), the printable area is enlarged. The upper margin becomes 1/6" (4 mm), the lower margin becomes 1/8" (2.5 mm), and the side margins become 1/8" (2.5 mm).
- When printing in the 0" mode (on 12 5/8" x 17 11/16" paper), the printable area is enlarged. The upper margin becomes 1/6" (4 mm), the lower margin becomes 1/8" (2.5 mm), and the side margins become 1/4" (7.5 mm).

B. Warranty

1. Main Unit Limited Warranty

CANON imageRUNNER ADVANCE C2230/C2225 SERIES LIMITED WARRANTY

Canon U.S.A., Inc. or Canon Canada Inc. (as applicable, "Canon") warrants the imageRUNNER ADVANCE C2230/C2225 Series product and Canon brand options designed for use with the imageRUNNER product (collectively the "Product") to be free from defects in workmanship and materials under normal use and service for a period of 90 days after delivery to the original purchaser ("Purchaser") or 30,000 prints or copies (or a combination of both), whichever comes first. During such warranty period, Canon shall replace, without charge, any defective part with a new or comparable rebuilt part. This warranty shall not extend to consumables such as paper, chemicals, and toner as to which there shall be no warranty or replacement. Warranty replacement shall not extend the original warranty period of the Product.

This limited warranty shall only apply if the Product is used in conjunction with compatible computers, peripheral equipment and software. Canon shall have no responsibility for such items except for compatible Canon brand peripheral equipment covered by a separate warranty ("Separate Warranty"). Repairs of such Canon brand peripheral equipment shall be governed by the terms of the Separate Warranty. Non-Canon brand equipment that may be distributed with the Product is sold "AS IS" and without warranty of any kind by Canon, including any implied warranty regarding merchantability or fitness for a particular purpose, and all such warranties are disclaimed. The sole warranty, if any, with respect to such non-Canon brand items is given by the supplier or producer thereof. For further information on software, see below.

This warranty shall be void and of no force and effect if the Product is damaged as a result of (a) abuse, neglect, mishandling, alteration, electric current fluctuation or accident, (b) improper use, including failure to follow operating or maintenance instructions or environmental conditions prescribed in Canon's operator's manual or other documentation, (c) installation or repair by other than authorized service representatives qualified by Canon who are acting in accordance with Canon's service bulletins, (d) use of supplies or parts (other than those distributed by Canon) which damage the Product or cause abnormally frequent service calls or service problems, or (e) use of the Product with non-compatible computers, peripheral equipment or software, including the use of the Product in any system configuration not recommended in any manual distributed with the Product. Nor does this warranty extend to any Product on which the original identification marks or serial numbers have been defaced, removed, or altered.

ANY SOFTWARE THAT IS DISTRIBUTED WITH THE PRODUCT AND HAS AN ASSOCIATED END USER AGREEMENT IS LICENSED, WARRANTED AND PROVIDED ACCORDING TO THE TERMS OF THAT AGREEMENT, INCLUDING ANY LIMITATIONS AND DISCLAIMERS THEREIN. SUCH SOFTWARE IS SOLD WITHOUT WARRANTY OF ANY KIND BY CANON. PLEASE CONTACT CANON IMMEDIATELY IF YOU HAVE NOT RECEIVED A COPY OF THE SOFTWARE SUPPLIER'S END USER AGREEMENT. CANON RECOMMENDS THAT DATA STORED ON THE PRODUCT'S HARD DISK DRIVE BE DUPLICATED OR BACKED UP TO PREVENT ITS LOSS IN THE EVENT OF FAILURE OR OTHER MALFUNCTION OF THE HARD DISK DRIVE.

THE ABOVE WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES AND CONDITIONS, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES AND CONDITIONS REGARDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, RELATING TO THE USE OR PERFORMANCE OF A PRODUCT OR ANY ASSOCIATED COMPONENT, AND ALL SUCH OTHER WARRANTIES AND CONDITIONS ARE DISCLAIMED. NO OTHER EXPRESS WARRANTY, CONDITION OR GUARANTY, EXCEPT AS MENTIONED ABOVE, GIVEN BY ANY PERSON, FIRM OR CORPORATION WITH RESPECT TO THE PRODUCT SHALL BIND CANON ANY SUPPLIER OR ANY AUTHORIZED SERVICE PROVIDER. NO WARRANTY IS GIVEN ON ANY USED PRODUCT.

NEITHER CANON OR ITS SUPPLIERS NOR ANY AUTHORIZED SERVICE PROVIDER SHALL BE LIABLE FOR PERSONAL INJURY OR PROPERTY DAMAGE (UNLESS CAUSED SOLELY AND DIRECTLY BY THE NEGLIGENCE OF CANON OR ANY AUTHORIZED SERVICE PROVIDER), LOSS OF REVENUE OR PROFIT, FAILURE TO REALIZE SAVINGS OR OTHER BENEFITS, EXPENDITURES FOR SUBSTITUTE EQUIPMENT OR SERVICES, LOSS OR CORRUPTION OF DATA, INCLUDING, WITHOUT LIMITATION, DATA STORED ON THE PRODUCT'S HARD DISK DRIVE, STORAGE CHARGES OR OTHER SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY THE USE, MISUSE OR INABILITY TO USE THE PRODUCT, REGARDLESS OF THE LEGAL THEORY ON WHICH THE CLAIM IS BASED AND EVEN IF CANON OR ITS SUPPLIERS OR ANY AUTHORIZED SERVICE PROVIDER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. NOR SHALL RECOVERY OF ANY KIND AGAINST CANON OR ITS SUPPLIERS OR ANY AUTHORIZED SERVICE PROVIDER BE GREATER IN AMOUNT THAN THE PURCHASE PRICE OF THE PRODUCT CAUSING THE ALLEGED DAMAGE. WITHOUT LIMITING THE FOREGOING, THE PURCHASER ASSUMES ALL RISKS AND LIABILITY FOR LOSS, DAMAGE OR INJURY TO PERSONS AND PROPERTY OF THE PURCHASER OR OTHERS ARISING OUT OF THE POSSESSION, USE, MISUSE, OR INABILITY TO USE THE PRODUCT NOT CAUSED SOLELY AND DIRECTLY BY THE NEGLIGENCE OF CANON OR ANY AUTHORIZED SERVICE PROVIDER. THIS WARRANTY SHALL NOT EXTEND TO ANYONE OTHER THAN THE ORIGINAL PURCHASER OF THE PRODUCT AND STATES SUCH PURCHASER'S EXCLUSIVE REMEDY.

CONDITIONS OF WARRANTY

Defective parts must be returned to Canon or an Authorized Service Provider with all necessary documentation and will become the property of Canon.

THIS WARRANTY APPLIES TO PRODUCTS SOLD AND USED IN THE U.S.A. AND CANADA ONLY.

2. GPR-36 Drum Unit Limited Warranty

CANON GPR-36 DRUM UNIT LIMITED WARRANTY

Canon U.S.A., Inc. and Canon Canada, Inc. (collectively "Canon") warrant the Drum Unit incorporated into the imageRUNNER ADVANCE Series product (the "Product") packaged with this Limited Warranty (the "Drum Unit") to be free from defects in workmanship and materials under normal use and service, other than exterior defects, such as nicks, scratches, or dents, for a period of 30 days after delivery to the original purchaser of the Drum Unit or use of it to make 1,000 prints or copies (or a combination of both), whichever comes first. If the Drum Unit proves to be defective within this warranty period, Canon shall, at its sole option, replace it without charge.

For purchases of the Black Drum Unit, following the expiration of the 30 day warranty period, and continuing for a period of 120 days after delivery to the original purchaser of the Black Drum Unit or use of it to make 32,000 prints or copies (or a combination of both), and for purchases of the Color Drum Unit, following the expiration of the 30 day warranty period, and continuing for a period of 120 days after delivery to the original purchaser of the Color Drum Unit or use of it to make 28,000 prints or copies (or a combination of both), whichever comes first,, Canon shall provide a credit ("Credit") to the original purchaser toward a respective replacement Drum Unit if the Drum Unit fails to operate under normal use and service by reason of any defect in workmanship and materials, other than exterior defects, such as nicks, scratches or dents. The Credit shall be a percentage of Canon's then current dealer price for the replacement Drum Unit determined as set forth in the example below.

Warranty replacement shall not extend the original warranty period of the Drum Unit.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES AND CONDITIONS, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES AND CONDITIONS REGARDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, RELATING TO THE USE OR PERFORMANCE OF THE DRUM UNIT. NO OTHER EXPRESS WARRANTY, CONDITION OR GUARANTY, EXCEPT AS MENTIONED ABOVE, GIVEN BY ANY PERSON, FIRM OR CORPORATION WITH RESPECT TO THE DRUM UNIT SHALL BIND CANON OR ANY AUTHORIZED SERVICE PROVIDER. NO WARRANTY IS GIVEN ON ANY USED DRUM UNIT.

This warranty shall be void and of no force and effect if the Drum Unit is damaged as a result of (a) abuse, neglect, mishandling, or alteration of the Drum Unit, a Product Accessory or a Product in which the Drum Unit is incorporated, electric current fluctuation, exposure to light, or accident, (b) improper use, including failure to follow operating or maintenance instructions in, or environmental conditions prescribed in, Canon's operator's manual or other documentation, (c) installation or repair by other than service representatives qualified by Canon who are acting in accordance with Canon's service bulletins, or (d) use of supplies or parts (other than those distributed by Canon) which damage the Drum Unit or cause abnormally frequent service calls or service problems. Nor does this warranty extend to any Drum Unit on which the original identification marks or serial numbers have been defaced, removed, or altered.

NEITHER CANON NOR ANY AUTHORIZED SERVICE PROVIDER SHALL BE LIABLE FOR PERSONAL INJURY OR PROPERTY DAMAGE (UNLESS CAUSED SOLELY AND DIRECTLY BY THE NEGLIGENCE OF CANON OR ANY AUTHORIZED SERVICE PROVIDER), LOSS OF REVENUE OR PROFIT, FAILURE TO REALIZE SAVINGS OR OTHER BENEFITS, EXPENDITURES FOR SUBSTITUTE EQUIPMENT OR SERVICES, LOSS OR CORRUPTION OF DATA, STORAGE CHARGES OR OTHER SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES CAUSED BY THE USE, MISUSE OR INABILITY TO USE THE DRUM UNIT, REGARDLESS OF THE LEGAL THEORY ON WHICH THE CLAIM IS BASED AND EVEN IF CANON OR ANY AUTHORIZED SERVICE PROVIDER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. NOR SHALL RECOVERY OF ANY KIND AGAINST CANON OR ANY AUTHORIZED SERVICE PROVIDER BE GREATER IN AMOUNT THAN THE PURCHASE PRICE OF THE DRUM UNIT CAUSING THE ALLEGED DAMAGE. WITHOUT LIMITING THE FOREGOING, THE PURCHASER ASSUMES ALL RISKS AND LIABILITY FOR LOSS, DAMAGE OR INJURY TO PERSONS AND PROPERTY OF THE PURCHASER OR OTHERS ARISING OUT OF THE POSSESSION, USE, MISUSE, OR INABILITY TO USE ANY DRUM UNIT NOT CAUSED SOLELY AND DIRECTLY BY THE NEGLIGENCE OF CANON OR ANY AUTHORIZED SERVICE PROVIDER. THIS WARRANTY SHALL NOT EXTEND TO ANYONE OTHER THAN THE ORIGINAL PURCHASER OF THE DRUM UNIT AND STATES SUCH PURCHASER'S EXCLUSIVE REMEDY.

CONDITIONS OF WARRANTY

The defective Drum Unit must be returned to Canon, freight prepaid, in the original packaging with all necessary documentation (machine log, a sample copy, warranty claim tag or other documents as required from time to time) to receive the Credit or replacement Drum Unit.

Credits will be based on the then current dealer price for the replacement Drum Unit, and will be pro-rated based on the copies made as indicated by the service report submitted by the Canon Authorized Service Representative.

EXAMPLE OF CREDIT

Drum Unit inoperative after 21,000 prints or copies (or a combination of both) in less than 120 days of use.

Calculation of the Credit may be illustrated by the following example:

Black Drum Calculation: $\frac{32,000 - 21,000}{32,000} = \frac{11,000}{32,000}$ = 34% of the dealer price of the replacement Drum

Color Drum Calculation: $\frac{28,000 - 21,000}{28,000} = \frac{7,000}{28,000}$ = 25% of the dealer price of the replacement Drum

THIS WARRANTY APPLIES TO DRUMS SOLD AND USED IN THE U.S.A. AND CANADA ONLY.

Canon

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