



# Canon imageRUNNER ADVANCE Hardening Guide





## Canon imageRUNNER ADVANCE Hardening Guide

Modern Canon Multifunction Devices (MFDs) are not only printers but also copiers, scanners and fax machines. MFDs are computer servers in their own right, providing a number of networked services along with significant hard drive storage.

As such, when an organisation introduces these devices into their infrastructure, there are a number of questions that should be addressed as part of their own security strategy which aims to protect the confidentiality, integrity and availability of networked systems.

Clearly, deployments will differ and there may well be specific security requirements for individual organisations. As always, Canon aims to support this by providing a number of configuration options for each service provided on the device. However, we also want to ensure that these devices are implemented with appropriate initial security settings.

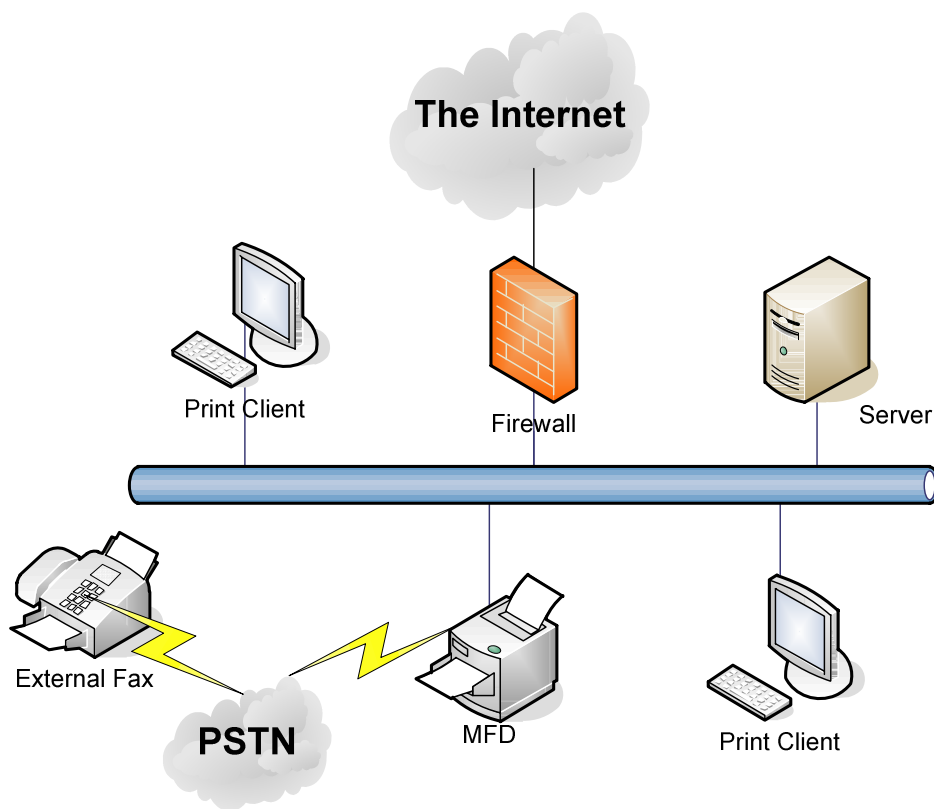
This guide provides the configuration settings for two typical scenarios so that organisations can securely add a MFD solution based on best practice. These settings have been tested and validated by recognised industry experts, IOActive

This guide makes no assumptions about specific industry sector regulatory requirements that may impose other security considerations which are out of scope of this document.

## Scenario 1 – Office Environment

Typically this will be a small business environment with an un-segmented network topology. It uses one or two MFDs for its internal use and these devices are not accessible from the Internet.

A small business may have only one person dealing with computer issues and then often on only a part-time basis. Many organisations hire a consultant to establish their computer environment, and then rely on in-house staff to keep it going.



Scenario 1 Network

## Configuration Considerations

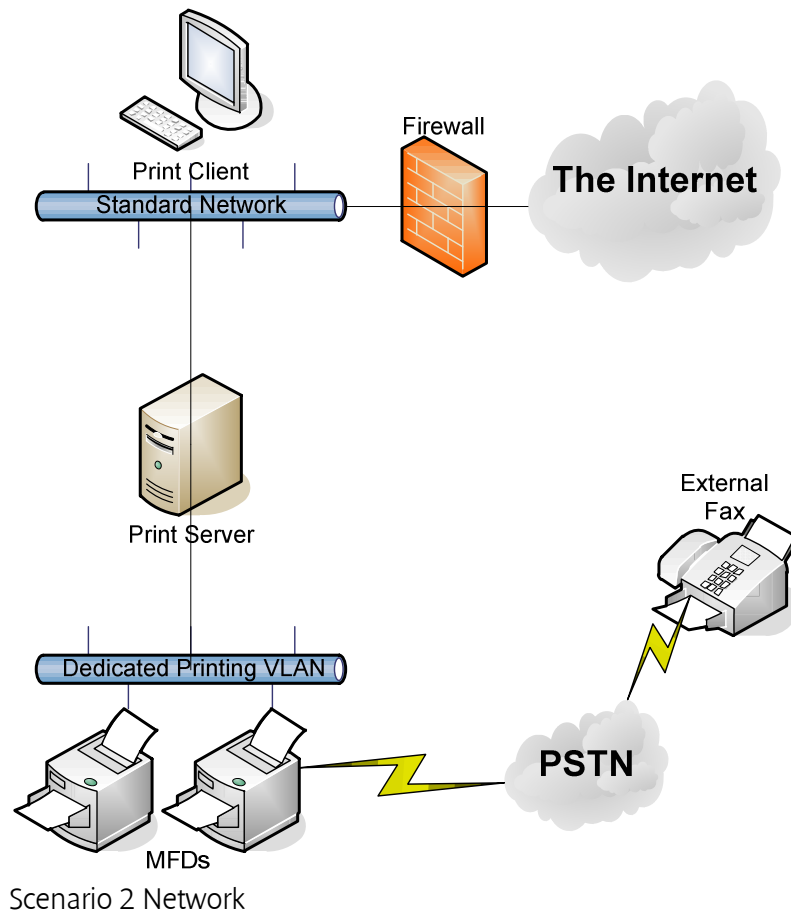
Please note that unless a feature of the imageRUNNER ADVANCE is mentioned below it is regarded as being sufficient in the default settings for this business and network environment.

imageRUNNER ADVANCE Feature	Description	Consideration
Service Mode	Allows access to Service Mode settings	Password protect with a non-default, non-trivial and maximum length password.
Service Management Mode	Allows access to various non-standard device settings	Password protect with a non-default, non-trivial and maximum length password.
SMB Browse/Send	Store and retrieve to and from Windows /SMB network shares	System administrators should, by policy, disallow any users from creating local accounts on their client machine for use in sharing documents with the imageRUNNER ADVANCE over SMB.
Remote UI	Web-based configuration tool	The imageRUNNER ADVANCE administrator should enable HTTPS for the remote UI and disable HTTP access. Enable the use of PIN authentication Unique to each device.
SNMP	Network monitoring integration	Disable version 1 and enable version 3 only.
Send to e-mail and/or IFAX	Send emails from the device with attachments	Enable SSL. Don't use the POP3 authentication before SMTP send. Use SMTP authentication.
POP3	Automatically fetch and print documents from mailbox	Enable SSL. Enable POP3 authentication.
Address book / LDAP	Use directory service to look up phone number or email addresses to send scans to	Enable SSL. Don't use domain credentials to authenticate against the LDAP server; use LDAP specific credentials.
FTP Print	Upload & download documents to and from the embedded FTP server	Turn on FTP authentication. Be aware that FTP traffic will always travel in clear text over the network.
WebDAV Send	Scan and Store documents on a remote location	Enable authentication for WebDAV shares.
Encrypted PDF	Encrypt documents	By policy sensitive documents should only be encrypted using PDF version 1.6 (AES-128).
Secure Print	Print job is send to the device but locked in the print queue until the corresponding PIN number is entered	Enable PIN protected print jobs.
Embedded web browser	Browser access to Internet	Enforce through administration, the use of a content filtering web proxy to avoid malicious or viral content being accessed. Disable the creation of favourites.
Wireless LAN	Provides Wireless access	Use WPA-PSK/WPA2-PSK with strong passwords.

## Scenario 2 – Enterprise Environment

This is typically a multi-site, multi-office environment with a segmented network architecture. It has multiple MFDs deployed on a separate VLAN accessible for internal use via print server(s). These MFDs are not accessible from the Internet.

This environment will usually have a permanent team to support their networking and back-office requirements along with general computer-issues but it is assumed they will not have specific MFD training.



## Configuration considerations

Please note that unless a feature of the imageRUNNER ADVANCE is mentioned below it is regarded as being sufficient in the default settings for this business and network environment.

imageRUNNER ADVANCE Feature	Description	Hardening activity
Service Mode	Allows access to Service Mode settings	Password protect with a non-default, non-trivial and maximum length password.
Service Management Mode	Allows access to various non-standard device settings	Password protect with a non-default, non-trivial and maximum length password.
SMB Browse/Send	Store and retrieve to and from Windows /SMB network shares	System administrators should, by policy, disallow any users from creating local accounts on their machine for use in sharing documents with the imageRUNNER ADVANCE over SMB.
Remote UI	Web-based configuration tool	Following initial device configurations disable the Remote UI completely by disabling HTTP and HTTPS.
SNMP	Network monitoring integration	Disable version 1 and enable version 3 only.
Send to e-mail and/or IFAX	Send emails from the device with attachments	Enable SSL. Enable: <ul style="list-style-type: none"> <li>- Certificate verification at the SMTP server</li> </ul> OR if not viable <ul style="list-style-type: none"> <li>- Only use this feature in an environment where a Network Intruder Detection System collector is present.</li> </ul> Don't use the POP3 authentication before SMTP send. Use SMTP authentication.
POP3	Automatically fetch and print documents from mailbox	Enable SSL. Enable: <ul style="list-style-type: none"> <li>- Certificate verification at the POP3 server</li> </ul> OR if not viable <ul style="list-style-type: none"> <li>- Only use this feature in an environment where a Network Intruder Detection System collector is present.</li> </ul> Enable POP3 authentication.
Address book / LDAP	Use directory service to look up phone number or email addresses to send scans to	Enable SSL. Enable: <ul style="list-style-type: none"> <li>- Certificate verification at the LDAP server</li> </ul> OR if not viable <ul style="list-style-type: none"> <li>- Only use this feature in an environment where a Network Intruder Detection System collector is present.</li> </ul> Don't use domain credentials to authenticate against the LDAP server; use LDAP specific credentials.
IPP	Connect and send printing jobs over the network	Disable IPP.
WebDAV Send	Scan and Store documents on a remote location	Enable authentication for the WebDAV shares. Enable SSL. Enforce the printer to only allow files ending with the "file printing extensions" to be uploaded.
IEEE802.1X	Network access authentication mechanism	EAPOL V1 supported.
Encrypted PDF	Encrypt documents	By policy sensitive documents should only be encrypted using PDF version 1.6 (AES-128).
Encrypted Secure Print	Enhance the protection of Secure Print by encrypting the file and the password during transmission	Configure the username in the Printer tab on the client printer configuration to a different username than the LDAP/domain credentials of that user. Ensure "Restrict printer jobs" is turned off.
Wireless LAN	Provides Wireless access	Use WPA-PSK/WPA2-PSK with strong passwords.

## FACTORY DEFAULTS

### Network Table

If you are configuring the settings for the first time in "Interface Settings," "TCP/IPV4 Settings," "TCP/IPV6 Settings," or "Settings Common to TCP/IPV4 and TCP/IPV6," use the control panel of the machine. After configuring the TCP/IP settings, you can change them using the Remote UI.

In the NetWare or AppleTalk network, the TCP/IP protocol must be used to specify the settings with software other than the control panel of the machine. The setting items are shown below.

• Some items can be set using the Remote UI. Use the control panel of the device to set items which cannot be set using the Remote UI.

\* Default Settings.

\*1 Indicates items that appear only when the appropriate optional equipment is attached.

Item	Setting Description	Can be set in Remote UI
User Data List	Print List	Yes
Confirm Network Connection Set. Changes	On, Off*	No
<b>TCP/IP Settings</b>		
IPv4 Settings		
	Use IPv4	On, Off*
	IP Address Settings	IP Address: 0.0.0.0*
		Subnet Mask: 0.0.0.0*
		Gateway Address: 0.0.0.0*
		DHCP: On, Off*
		RARP: On, Off*
		BOOTP: On, Off*
	PING Command	IP Address: 0.0.0.0*
IPv6 Settings		
	Use IPv6	On, Off*
	Stateless Address Settings	Use Stateless Address: On*, Off
	Manual Address Settings	Use Manual Address: On, Off*
		Manual Address: IPv6 Address (39characters maximum)
		Prefix Length: 0 to 128 (64*)
		Default Router Address (39 characters maximum)
	Use DHCPv6	On, Off*
	PING Command	IPv6 Address:(39characters maximum)
	Host Name	48 characters maximum
DNS Settings		
DNS Server Address Settings		
	IPv4	Primary DNS Server: IP Address: 0.0.0.0*
		Secondary DNS Server: IP Address: 0.0.0.0*
	IPv6	Primary DNS Server: IPv6 Address
		Secondary DNS Server:IPv6 Address
DNS Host/Domain Name Settings		
	IPv4	Host Name: 47 characters maximum
		Domain Name: 47 characters maximum
	IPv6	Use Same Host Name/Domain Name as IPv4: On, Off*
		Host Name: 47 characters maximum

Item	Setting Description	Can be set in Remote UI
DNS Dynamic Update Settings		
IPv4	DNS Dynamic Update: On, Off*	Yes
IPv6	DNS Dynamic Update: On, Off*	Yes
	Register Stateless Address: On, Off*	Yes
	Register Manual Address: On, Off*	Yes
	Register Stateless Address: On, Off:	Yes
WINS Settings		
WINS Resolution	On, Off*	Yes
WINS Server Address	IP Address: 0.0.0.0*	Yes
Node Type	Auto Set, display only	No
Scope ID	63 characters maximum	Yes
LPD Print Settings		
LPD Print Settings	On*, Off	Yes
LPD Banner Page* <sup>1</sup>	On, Off*	Yes
RAW Print Settings		
RAW Print Settings	On*, Off	Yes
Bidirectional Communication	On, Off*	Yes
SNTP Settings		
Use SNTP	On, Off*	Yes
Polling Interval	Interval for performing time synchronization (1 to 48 hours) (24hours*)	Yes
NTP Server Address	IP address or host name	Yes
Check NTP Server	-	Yes
FTP Print Settings		
Use FTP Print	On, Off*	Yes
User	User name for FTP server login (24 characters maximum)	Yes
Password	Password for FTP server login (24 characters maximum)	Yes
WSD Print Settings		
Use WSD Print	On*, Off	Yes
Use WSD Browsing	On*, Off	Yes
Use Multicast Discovery	On*, Off	Yes
Use FTP PASV Mode		
Use FTP PASV Mode	On, Off*	Yes
IPP Print Settings		
IPP Print Settings	On* Off	Yes
Use SSL	On, Off*	Yes
Use Authentication	On, Off*	Yes
User	User name for FTP server login (24 characters maximum)	Yes
Password	Password for FTP server login (24 characters maximum)	Yes

Item	Setting Description	Can be set in Remote UI
Multicast Discovery Settings		
	Response	On* Off Yes
	Scope name	Scope name to be used for a multicast discovery (32 characters maximum) Yes
	Use HTTP	On* Off Yes
	Use Web DAV Server	On, Off* Yes
	SSL Settings	Functions using SSL encrypted communications Yes
Key and Certificate		
	Set as the Default Key	- Yes
	Certificate Details	Version/Serial Number/Signature Algorithm/Issue Destination/Start Date of Validity/End Date of Validity/Issuer/Public Key/ Cert Thumbprint/Certificate Yes
	Display Use Location	Displays what the key pair is being used for Yes
Proxy Settings		
	Use proxy	On, Off* Yes
	Server Address	IP address or FQDN (128 characters maximum) Yes
	Port Number	1 to 65535(80*) Yes
	Use Proxy within the Same Domain	On, Off* Yes
Set Authentication		
	Use Proxy Auth.	On, Off* Yes
	User	24 characters maximum Yes
	Password	24 characters maximum Yes
	Confirm Dept. ID PIN	On*, Off Yes
IPSec Settings		
	Use IPSec	On, Off* Yes
	Receive Non-policy Packets	Allow/Reject Yes
	Edit	Yes
	Delete	Yes
	Policy On, Off	Yes
Register		
	Policy Name	24 characters maximum Yes
	Register: Selector Settings	Local Address: All IPAddresses*/IPv4 Address/IPv6 Address/IPv4 Manual Settings/IPv6 Manual Settings Yes
		Remort Address: All IPAddresses*, All IPv4Address, All IPv6Address, IPv4Manual Settings, IPv6 Manual Settings Yes
		Port: Specify by Port Number*/Specify by Service Name Yes
	IKE Settings	IKE mode: Main*/Aggressive Yes
		Authentication Method: Pre-Shared Key Method*/Digital sig. Method Yes
		Auth./Encryption Algorithm: Auto*/Manual Settings Yes
	IPSec Network Settings	Validity: Time (1to65535minuites)(480minuites*) Yes
		Validity: Size (1to65535 MB)(65535 MB*) Yes
		PFS: On, Off* Yes
		Auth./Encryption Algorithm: Auto*/Manual Settings Yes
		Connect. Mode: Transport, display only -

Item	Setting Description	Can be set in Remote UI
NetWare Settings		
Use NetWare	On, Off*	Yes
Frame Type	Auto Detect*/Ethernet II/Ethernet 802.2/Ethernet 802.3/Ethernet SNAP	Yes
IPX External Network Number	Auto Set, display only	-
Node Number	Auto Set, display only	-
Print Service	Bindery PServer, R Printer, NDS Pserver*, Nprinter	Yes
Packet Signature	Auto Set, display only	-
Bindery Pserver Settings		
Print Server Name	47 characters maximum	Yes
File Server Name	47 characters maximum	Yes
Print Server Password	20 characters maximum	Yes
Printer Number	0 to 15 (0*)	Yes
Polling Interval	1 to 15 seconds (5 seconds*)	Yes
Printer Form	0 to 255 (0*)	Yes
Buffer Size	1 to 20KB (20KB*)	Yes
Service Mode	Service only currently mounted form/Change forms as needed/Minimize form changes across print queues/Minimize form changes within print queues*	Yes
Rprinter Settings		
Print ServerName	47 characters maximum	Yes
File ServerName	47 characters maximum	Yes
Printer Number	0 to 15 (0*)	Yes
NDS PServer Settings		
Print ServerName	64 characters maximum	Yes
Tree Name	32 characters maximum	Yes
Context	256 characters maximum	Yes
Print ServerPassword	20 characters maximum	Yes
Printer Number	0 to 254 (0*)	Yes
Polling Interval	1 to 255 seconds (5 seconds*)	Yes
Printer Form	0 to 255 (0*)	Yes
Buffer Size	3 to 20KB (20KB*)	Yes
Service Mode	Service only currently mounted form/Change forms as needed/Minimize form changes across print queues/Minimize form changes within print queues*	Yes
NPrinter Settings		
Print ServerName	64 characters maximum	Yes
Tree Name	32 characters maximum	Yes
Context	256 characters maximum	Yes
Printer Number	0 to 254 (0*)	Yes

Item	Setting Description	Can be set in Remote UI
AppleTalk Settings		
Use AppleTalk	On, Off*	Yes
Phase	Phase 2 (fixing)	-
Service Name	32 characters maximum	Yes
Zone	32 characters maximum	Yes
Print Mode	Both*, Spool, Direct	Yes
SMB Server Settings		
Use SMB Server	On, Off*	Yes
ServerName	15 characters maximum (Canon+represents the last six digits of a MAC address)	Yes
Workgroup	15 characters maximum (WORKGROUP*)	Yes
Comment	48 characters maximum	Yes
LM Announce	On, Off*	Yes
SMB Printer Settings		
Use SMB Print	On, Off*	Yes
Printer Name	13 characters maximum (PRINTER)	Yes
SMB Auth. Settings		
Use SMB Authentication	On, Off*	Yes
Authentication Type	NTLMv1*, NTLMv2*	Yes
SNMP Settings		
Get Printer Mgmt Info from Host	On, Off*	Yes
Use SNMPv1	On*, Off	Yes
Community Name1 Settings		
Community Name1	On*, Off	Yes
MIB Access Permission	Read/Write/Read Only*	Yes
Community Name	Community Name (32 characters maximum)(public*)	Yes
Community Name2 Settings		
Community Name2	On, Off*	Yes
MIB Access Permission	Read/Write/Read Only*	Yes
Community Name	Community Name (32 characters maximum)(public2*)	Yes
Use SNMPv3	On, Off*	Yes
User Settings		
User On, Off	-	Yes
Register	User/MIB Access Permission/Security Settings/Authent. Algorithm/Authent.Password/Encryption Algorithm/Encryption Password	Yes
Details/Edit	User/MIB Access Permission/Security Settings/Authent. Algorithm/Authent.Password/Encryption Algorithm/Encryption Password	Yes
Delete	-	Yes

Item		Setting Description	Can be set in Remote UI
	Context Settings	Context Name (32 characters maximum)	
	Register	Context Name (32 characters maximum)	Yes
	Edit	-	Yes
	Delete		Yes
Dedicated Port Settings			
	Dedicated Port Settings	On*, Off	Yes
Use Spool Function			
	Use Spool Function	On, Off*	Yes
Startup Settings			
	Startup Settings	0 to 300 seconds (0*)	Yes
Ethernet Driver Settings			
	Auto Detect	On*, Off	Yes
	Communication Mode	Half Duplex*/Full Duplex	Yes
	Ethernet Type	10 Base-T*,100 Base-TX,1000 Base-T	Yes
	MAC Address	Display only	-
IEEE802.1X Settings			
	Use IEEE802.1X	On, Off*	Yes
	User	Name of the user to be authenticated with IEEE802.1X authentication	Yes
	Password	Password of the user to be authenticated with IEEE802.1X authentication	Yes
TLS Settings			
	Use TLS	On, Off*	Yes
Key and Certificate			
	Set as the Default Key	-	Yes
	Certificate Details	Version/Serial Number/Signature Algorithm/Issue Destination/Start Date of Validity/End Date of Validity/Issuer/Public Key/Cert.Thumbprint/Certificate	Yes
	Display Use Location	Displays what the key pair is being used for	Yes
TTLS Settings			
	Use TTL	On, Off*	Yes
	TTLS Settings	MSCHAPv2*, PAP	Yes
PEAP Settings			
	Use PEAP	On, Off*	Yes
	Same User Name as Login Name	-	Yes
	Login Name	24 characters maximum	Yes
Firewall Settings			
	IP Address Block Log	Time, Category, IP Address, Result	Yes
IPv4 Address Filter			
	Send Filter		
	Use Filter	On, Off*	Yes
	Default Policy	Allow/Reject	Yes
	IPv4 Address	Up to 16 IPv4 addresses can be stored	Yes

Item		Setting Description	Can be set in Remote UI
	Receive Filter		
	Use Filter	On, Off*	Yes
	Default Policy	Allow/Reject	Yes
	IPv4 Address	Up to 16 IPv4 addresses can be stored	Yes
	IPv6 Address Filter		
	Send Filter		
	Use Filter	On, Off*	Yes
	Default Policy	Allow/Reject	Yes
	IPv6Address	Up to 16 IPv4 addresses can be stored	Yes
	RecieveFilter		
	Use Filter	On, Off*	Yes
	Default Policy	Allow/Reject	Yes
	IPv6Address	Up to 16 IPv4 addresses can be stored	Yes
	MACAddressFilter		
	Send Filter		
	Use Filter	On, Off*	Yes
	Default Policy	Allow/Reject	Yes
	MACAddress	Up to 100 IPv4 addresses can be stored	Yes
	RecieveFilter		
	Use Filter	On, Off*	Yes
	Default Policy	Allow/Reject	Yes
	MACAddress	Up to 100 IPv4 addresses can be stored	Yes

## External Interface

\* Default Settings

Item	Setting Description	Device Information Delivery Available	
<b>USB Settings</b>			
	Use USB Device	On*, Off	Yes
	Use MEAP Driver for USB Device	On, Off*	Yes
	Use MEAP Driver for USB External Drive	On, Off*	Yes

## Send

\* Default Settings

\*1 Indicates items that appear only when the appropriate optional equipment is attached.

\*4 Indicates item that appears only if the Super G3 2nd Line Fax Board is installed in addition to installing the Super G3 FAX Board.

\*5 Indicates item that appears only if the Super G3 3rd/4th Line Fax Board is installed in addition to installing the Super G3 FAX Board.

Item	Setting Description	Device Information Delivery Available	
<b>Print Report</b>		No	
	TX/RX User Data List	Print	No
	Fax User Data List* <sup>1</sup> Print		
	Use MEAP Driver for USB External Drive	On, Off*	Yes
<b>Common Settings</b>			
	Register Favourite Settings Edit Favourite Settings	Register/Edit, Delete (M1 to M18), Check Content	Yes
	Show Comment	On, Off*	Yes
	Display Confirmation for Favourite Settings	On*, Off	No
	Change Default Screen	Standard*, Address Book, One-touch, Favourite Settings	No
	Change Default Settings	Register, Initialize	No
	Register [Options] Shortcuts		
	Shortcut 1	2-Sided*, No Settings	No
	Shortcut 2	Different Size Originals*, No Settings	No
	TX Report	For Error Only*, On, Off	Yes
	Report with TX Image	On*, Off	Yes
	Report with Colour TX Image	On, Off*	Yes
	Communication Activity Report		
	Auto Print (100 Transmissions)	On*, Off	Yes
	Specify Print Time	On, Off*	Yes
	Timer Setting	00:00 to 23:59 (00:00*)	Yes
	Send/Receive Separate	On, Off*	Yes

Item		Setting Description	Device Information Delivery Available
	TX Terminal ID	On*, Off • TX Terminal ID: On • Printing Position: Outside • Display Destination Unit Name: On • Telephone # Mark* <sup>1</sup> : FAX	Yes
	Delete Failed TX Jobs	On*, Off	Yes
	Retry Times	0 to 5times(3times*)	Yes
	Data Compression Ratio	Compact, Normal*, Low Ratio	Yes
	YCbCr TX Gamma Value	Gamma 1.0, Gamma 1.4, Gamma 1.8*, Gamma 2.2	Yes
	Use Chunked Encoding with WebDAV Sending	On*, Off	Yes
Limit New Destinations			
	Fax	On, Off*	Yes
	E-mail	On, Off*	Yes
	I-Fax	On, Off*	Yes
	File	On, Off*	Yes
	Always Add Device Signature to Send* <sup>1</sup>	On, Off*	Yes
	Restrict File Formats	On, Off*	Yes
<b>E-mail/Ifax Settings</b>			
	Register Unit Name	24 characters maximum	No
Communication Settings			
	SMTP Receive	On*, Off	Yes
	POP	On* Off	Yes
	SMTP Server	Server name or IPAddress (48characters maximum)	No
	E-mail Address	64 characters maximum	No
	POP Server	Server name or IPAddress (48characters maximum)	No
	POP Address	32 characters maximum	No
	POP Password	32 characters maximum	No
	POP Interval	0* to 99(If the interval is set to 0, the incoming e-mail is not checked automatically.)	No
	POP AUTH Method	Standard*/APOP/POP AUTH	Yes
	POP Authentication before Sending	On, Off*	No
	SMTP Authentication (SMTP AUTH)	On, Off*	No
	User	User name for SMTP authentication (64 characters maximum)	No
	Password	Password for SMTP authentication (32 characters maximum)	No
	Allow SSL (POP)	On, Off*	No
	Allow SSL (SMTP Send)	On, Off*	No
	Display Auth. Screen When Send	On*, Off	No
	Allow SSL (SMTP Receive)	Always SSL, On, Off*	No
	Maximum Data Size for Sending	0=(Off)/1 to 99 MB (3MB*)	Yes
	Default Subject	40 characters maximum (Attached Image*)	Yes
	Use SMTP Authentication for Each User	On*, Off	No
	Specify Authentication User Dest. to Reply	On, Off*	No
	Set Authorized User Destination to Sender	On*, Off	No
	Allow Sending to Unregistered Destinations	On, Off*	Yes
	Full Mode TX Timeout	1 to 99hours(24hours*)	Yes

Item		Setting Description	Device Information Delivery Available
	Print MDN/DSN upon Receipt	On, Off*	Yes
	Use Send via Server	On, Off*	Yes
	Allow MDN Not via Server	On*, Off	Yes
Restrict TX Destination Domain			
	Restrict TX Destination Domains	On, Off*	Yes
	Permitted Domains	Register, Details/Edit, Delete	No
	Change Default Screen	Standard*, Address Book	No
	Change Default Settings	Register, Initialize	No
Register [Options] Shortcuts			
	Shortcut 1	Density*, No Settings	No
	Shortcut 2	Original Type*, No Settings	No
	Shortcut 3	2-Sided Original*, No Settings	No
	Shortcut 4	Different Size Originals*, No Settings	No
	Register Sender Name (TTI)	01 to 99: Register/Edit, Delete	No
	ECM TX	On, Off	Yes
	Set Pause Time	1 to 15seconds(2seconds*)	Yes
	Auto Redial	On, Off	Yes
	Redial Times	1 to 15 times (2 times*)	Yes
	Redial Interval	2 to 99 minutes (2 minutes*)	Yes
	Redial When TX Error	Error and 1st page*, All pages, Off	Yes
	Check Dial Tone Before Sending	On*, Off	Yes
	Fax TX Report	For Error Only*, On, Off	Yes
	Report with TX Image	On*, Off	Yes
Fax Activity Report			
	Auto Print (40 Transmissions)	On*, Off	Yes
	Specify Print Time	On, Off*	Yes
	Timer Setting	00:00 to 23:59 (00:00*)	Yes
	Send/Receive Separate	On, Off*	Yes
			Yes
Set Line			
	Register User Telephone No.	20 digits maximum	No
	Register Unit Name	24 characters maximum	No
	Select Line Type	Pulse, Tone*	No
	Line (2 to 8)	If the Super G3 FAX Board and Super G3 2nd Line Fax Board are installed: • Line 2	No
		If the Super G3 FAX Board, Super G3 2nd Line Fax Board, and Super G3 3rd/4th Line Fax Board are installed: • Line 2, Line 3, Line 4	No

Item		Setting Description	Device Information Delivery Available
	Select TX Line	If the Super G3 FAX Board is installed: • Line 1: Priority TX, Prohibit TX*	No
		If the Super G3 FAX Board and Super G3 2nd Line Fax Board are installed: • Line 1: Priority TX, Prohibit TX* • Line 2: Priority TX, Prohibit TX	No
		If the Super G3 FAX Board, Super G3 2nd Line Fax Board, and Super G3 3rd/4th Line Fax Board are installed: • Line 1: Priority TX, Prohibit TX* • Line 2: Priority TX, Prohibit TX • Line 3: Priority TX, Prohibit TX • Line 4: Priority TX, Prohibit TX	No
	TX Start Speed	33600 bps*, 14400 bps, 9600 bps, 7200 bps, 4800 bps, 2400 bps	Yes
	PIN Code Access	On, Off*	
	Line1	On, Off*	Yes
	Line2* <sup>9</sup>	On, Off*	Yes
	Line3* <sup>9</sup>	On, Off*	Yes
	Line4* <sup>9</sup>	On, Off*	Yes
	Confirm Entered Fax Numbers	On, Off*	Yes
	Allow Fax Driver TX	On*, Off	Yes
	Remote Fax TX Settings		
	Remote Fax Server Address	Host name or the IP address (48 characters maximum)	No
	TX Timeout	1 to 99hours (24hours*)	Yes
	Select TX Line	1 to 4Line (1*)	No
	Select Priority Line	Line1, Line2* <sup>10</sup> , Line3* <sup>10</sup> , Line4* <sup>10</sup>	No
	Remote Fax Settings		
	Use Remote Fax	On*, Off	Yes

## Receive/Forward

### \* Default Settings

\*1 Indicates items that appear only when the appropriate optional equipment is attached.

\*7 Indicates item that is not delivered as device information.

Receive Type, Details/Edit, Delete, Print List, E-Mail Priority

Item	Setting Description	Device Information Delivery Available	
<b>Print Report</b>			
	TX/RX User Data List	Print	No
	Fax User Data List* <sup>1</sup>	Print	No
<b>Common Settings</b>			
	Print on Both Side	On, Off*	Yes
Select Drawer			
	SwitchA	On*, Off	Yes
	SwitchB	On*, Off	Yes
	SwitchC	On*, Off	Yes
	SwitchD	On*, Off	Yes
	Reduce Fax RX Size	On*, Off	Yes
		On • Reduction Mode: Auto • Reduction %: 90% • Reduction Direction: Vertical Only	Yes
	2 On 1 Log	On, Off*	Yes
	Received Page Footer	On, Off*	Yes
	YCbCr RX Gamma Value	Gamma 1.0, Gamma 1.4, Gamma 1.8*, Gamma 2.2	Yes
	Handle Files with Forwarding Errors	Always Print, Store/Print, Off*	Yes
	Forwarding Settings	Receive Type, Validate/Invalidate, Register (Registered Forwarding Settings), Forward w/o Conditions, E-Mail Priority, Details/Edit, Delete, Print List	Yes* <sup>1</sup>
Receive Tray Settings			
Set Fax/I-Fax Inbox			
	Set/Register Confidential Fax Inboxes	00 to 49	Yes
	Register Box Name:	24 characters maximum	Yes
	PIN	Seven digits maximum	Yes
	URL Send Settings	-	Yes
	Initialize	-	No
	Memory RX Inbox PIN	Seven digit number	No
	Use Fax Memory Lock* <sup>1</sup>	On, Off*	Yes
	Use I-Fax Memory Lock	On, Off*	Yes
	Memory Lock Start Time	Everyday, Select Days, Off*	Yes
	Memory Lock End Time	Everyday, Select Days, Off*	Yes
	Divided Data RX Timeout	0 to 99 hours (24hours*)	Yes
	Always Send Notice for RX Errors	*On, Off	Yes
<b>Fax Settings*<sup>1</sup></b>			
	ECM RX	*On, Off	Yes
	Fax RX Report	For Error Only, On, Off*	Yes
	Confidential Fax Inbox RX Report	On*, Off	Yes
	Receive Start Speed	33600 bps*, 14400 bps, 9600 bps, 7200 bps, 4800 bps, 2400 bps	Yes
	Receive Password	20 digits maximum	No

## Store/Access Files

\* Default Settings

Item	Setting Description	Device Information Delivery Available	
<b>Common Settings</b>			
Scan and Store Settings			
	Register/Edit Favourite Settings	Register/Edit, Delete (Up to 9 Set Keys), Check Content	No
	Change Default Settings	Register, Initialize	No
Settings of Access Stored File			
	Register/Edit Favourite Settings	Register/Edit, Delete (Up to 9 Set Keys), Check Content	No
	Change Default Settings	Register, Initialize	No
<b>Mail Box Settings</b>			
Mail Box Settings			
	Mail Box No.	00 to 99	No
	Register Box Name	24 characters maximum	Yes
	PIN	Seven digits	Yes
	Time Until Document Auto Delete	0 (Off), 1, 2, 3*, 6, 12 hours, 1, 2, 3, 7, 30 days	No
	URL Send Settings	-	Yes
	Print upon Storing from Printer Driver	On, Off*	Yes
	Initialize	-	No
Settings for All Mail Boxes			
	Time Until Document Auto Delete	0 (Off), 1, 2, 3*, 6, 12 hours, 1, 2, 3, 7, 30 days	No
	Print upon Storing from Printer Driver	On, Off*	No
<b>Advanced Box Settings</b>			
	Open to Public	By SMB, By WebDAV, Off*	Yes
	Allow to Create Personal Space	On*, Off	Yes
WebDAV Server Settings			
	Authentication Type	Basic, Off*	Yes
	Use SSL	On, Off*	Yes
	Delete All Personal Spaces	Delete	No
	Initialize Shared Space	Initialize	No
	Prohibit Writing from External	On*, Off	Yes
	Authentication Management	On, Off*	Yes
	File Formats Allowed for Storing	Printable Formats Only, Common Office Formats, All	Yes
<b>Network Settings</b>			
	Network Place Settings	Register, Details, Delete	Yes
Protocol for External Reference			
	SMB	On*, Off	Yes
	WebDAB	On*, Off	Yes

## Encrypted Secure Print

### \* Default Settings

\*1 Indicates items that appear only when the appropriate optional equipment is attached.

Item	Setting Description	Device Information Delivery Available
Only Allow Encrypted Print Jobs* <sup>1</sup>	On, Off*	Yes

## SET DESTINATION

### Set Destination

#### \* Default Settings

\*1 Indicates items that appear only when the appropriate optional equipment is attached.

Item	Setting Description	Device Information Delivery Available
Address List	Address Book 1 to 10, One-touch	No
	Print List: Print	No
Register Destinations	Register New Dest., Details/Edit, Delete, Search by Name	Yes
Register Address List Name	Register Name	Yes
Register One-touch	Register/Edit, Delete	Yes
Change Default Display of Address Book	Local*, LDAP Server, Remote	No
Address Book PIN	Seven digit number	Yes
Manage Address Book Access Number	On, Off*	
Register LDAP Server	Receive Type, Validate/Invalidate, Register, Details/Edit, Delete, Forward w/o Conditions, Print List, E-Mail Priority	No
Auto Search When Using LDAP Server	On* Off	Yes
Acquire Remote Address Book	On, Off*	Yes
Remote Address Book Server Address	IP Address or Host Name (128 characters maximum)	No
Communication Timeout	15 to 120 seconds (30 seconds*)	Yes
Fax TX Line Auto Select Adjustment	On*, Off	Yes
<b>Make Remote Address Book Open</b>		
Make Remote Address Book Open	On, Off*	Yes

# MANAGEMENT SETTINGS

## User Management

\* Default Settings

\*1 Indicates items that appear only when the appropriate optional equipment is attached.

Item	Setting Description	Device Information Delivery Available
<b>System Manager Information Settings</b>		
System Manager ID	Seven digit number maximum	Yes
System PIN	Seven digit number maximum	Yes
System Manager	32 characters maximum	Yes
E-Mail Address	64 characters maximum	Yes
Contact Information	32 characters maximum	Yes
Comment	32 characters maximum	Yes
<b>Department ID Management</b>		
Department ID Management	On, Off*	Yes
Register PIN	Register, Edit, Delete, Limit Functions	Yes
Page Totals	Clear, Print List, Clear All Totals, Large2 Count Management	No
Allow Printer Jobs With Unknown IDs	On*, Off	Yes
Allow Remote Scan Jobs With Unknown IDs	On*, Off	Yes
Allow Black Copy/ Mail Box Print Jobs	On, Off*	Yes
Allow Black Printer Jobs	On, Off*	Yes

## Device Management

\* Default Settings

\*1 Indicates items that appear only when the appropriate optional equipment is attached.

Item	Setting Description	Device Information Delivery Available
<b>Device Information Settings</b>		
Device Name	32 characters maximum	No
Location	32 characters maximum	No
<b>Device Information Delivery Settings</b>		
Register Destinations	Auto Search/Register, Register, Details, Delete, Print List	
	Auto Search/Register <ul style="list-style-type: none"> <li>• List</li> <li>• Search Depth (Router): 1 to 8</li> <li>• Display Host Name: On, Off</li> <li>• Start Auto Search</li> </ul>	
Auto Delivery Settings	Everyday, Select Days, Off*	
Settings/Registration Value	On, Off* Network Settings: Include, Exclude	
Dept. ID	On, Off*	
Address Book	On, Off*	
Printer Settings	On, Off*	
Paper Information	On, Off*	

Item		Setting Description	Device Information Delivery Available
Manual Delivery			
	Settings/Registration Value	On, Off* Network Settings: Include, Exclude	
	Dept. ID	On, Off*	
	Address Book	On, Off*	
	Printer Settings	On, Off*	
	Paper Information	On, Off*	
	Restrictions for Receiving Device Info.	On*, Off	
	Restore Data	Settings/Registration Value, Dept. ID, Address Book, Printer Settings, Paper Information	
Receive Restriction for Each Function			
	Settings/Registration Value	On*, Off	
	Dept. ID	On*, Off	
	Address Book	On*, Off	
	Printer Settings	On*, Off	
	Paper Information	On*, Off	
	Communication Log	Details, Print List, Report Settings	
		Report Settings	
		• Auto Print (100 transmissions): On*, Off	
		• Specify Print Time: On, Off*	
		• 00:00* to 23:59	
		• Separate Report Type: On, Off*	
<b>Limited Functions Mode</b>		On, Off*	No
<b>Limit Functions When Security Key is Off*</b>		Partial Functions*, All Functions	Yes
<b>Confirm Device Signature Certificate</b>		Certificate Details: Certificate	No
<b>Check User Signature Certificate</b>		Certificate Details: Certificate	No
<b>Certificate Settings</b>			
	Certificate Settings: Generate Network Communication Key		
	Key Name	24 characters maximum	No
	Key Algorithm	RSA, Display only	No
	Key Length(bit)	512*,1024	No
	Start Date of Validity	Month, Date, Year(2000/01/01-2048/12/31)	No
	End Date of Validity	Month, Date, Year(2000/01/01-2048/12/31)	No
	Country/Region	Country/Region name and code (2 characters maximum)	No
	State	24 characters maximum	No
	City	24 characters maximum	No
	Organization	24 characters maximum	No
	Organization Unit	24 characters maximum	No
	Common Name	IP address or FQDN (24 characters maximum)	No
	Certificate Settings: Generate Key		
	Generate/Update Device Signature Key	-	No
Certificate Settings: Key and Certificate List: Key and Certificate List for this Machine Editing Key Pairs and Server Certificates Confirming a Key Pair and Device Certificate			
	Certificate Details	Version/Serial Number/Signature Algorithm/Issue Destination/Start Date of Validity/End Date of Validity/Issuer/ Public Key/Cert. Thumbprint/Certificate	No

Item		Setting Description	Device Information Delivery Available
	Delete	-	
	Display Use Location	Displays what the key pair is being used for	No
Certificate Settings: Key and Certificate List: Key and Certificate List for Users*			
	Certificate Details	Version/Serial Number/Signature Algorithm/Issue Destination/ Start Date of Validity/End Date of Validity/Issuer/Public Key/ Cert. Thumbprint/Certificate	No
	Delete	-	No
Certificate Settings: CA Certificate List			
	Certificate Details	Version/Serial Number/Signature Algorithm/ Issue Destination/ Start Date of Validity/ End Date of Validity/Issuer/Public Key/ Cert. Thumbprint/Certificate	No
	Delete	-	No
Certificate Settings: Register Key and Certificate			
	Register	Key Name (24 characters maximum) Password (24 characters maximum)	No
	Delete	-	No
Certificate Settings: Register CA Certificate			
	Register	-	No
	Delete	-	No
Display Asterisks For Confidential Info.		On*, Off	Yes
Display Status Before Authentication		On*, Off	No
Job Log Display		On*, Off	No
		On • Obtain Job Log From Management Software: Permit, Do Not Allow*	No

## License/Other

### \* Default Settings

\*1 Indicates items that appear only when the appropriate optional equipment is attached.

Item	Setting Description	Device Information Delivery Available
Register License	24 characters maximum	No
<b>MEAP Settings</b>		
Print System Information	Print	No
Use SSL	On, Off*	No
	On • Use SSL: On, Off*	No
Remote UI	On*, Off	Yes
Use SSL	On, Off*	No
	On • Use SSL: On, Off*	No
Use Reference Print	On, Off*	Yes
Delete Message Board Contents	Clear	No

## Data Management

### \* Default Settings

\*1 Indicates items that appear only when the appropriate optional equipment is attached.

Item	Setting Description	Device Information Delivery Available
<b>HDD Data Complete Deletion*</b>		
Timing of Deletion	During Job*, After Job	No
Deletion Mode	Overwrite Once With 0 (Null) Data*, Overwrite 1 Time With Random Data, Overwrite 3 Times With Random Data, DOD Standard	No
Initialize All Data/Settings	License cannot be reused	No
TPM Settings	Backup TPM Key, Restore TPM Key	No

This guide was created based on the feature set of the imageRUNNER ADVANCE C5050i version 45.02.