

UNIVERGE SV9500

FP95-112 V2

Data Programming Manual - T.38 Fax Communication

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UNIVERGE SV9500
Data Programming Manual - T.38 Fax Communication

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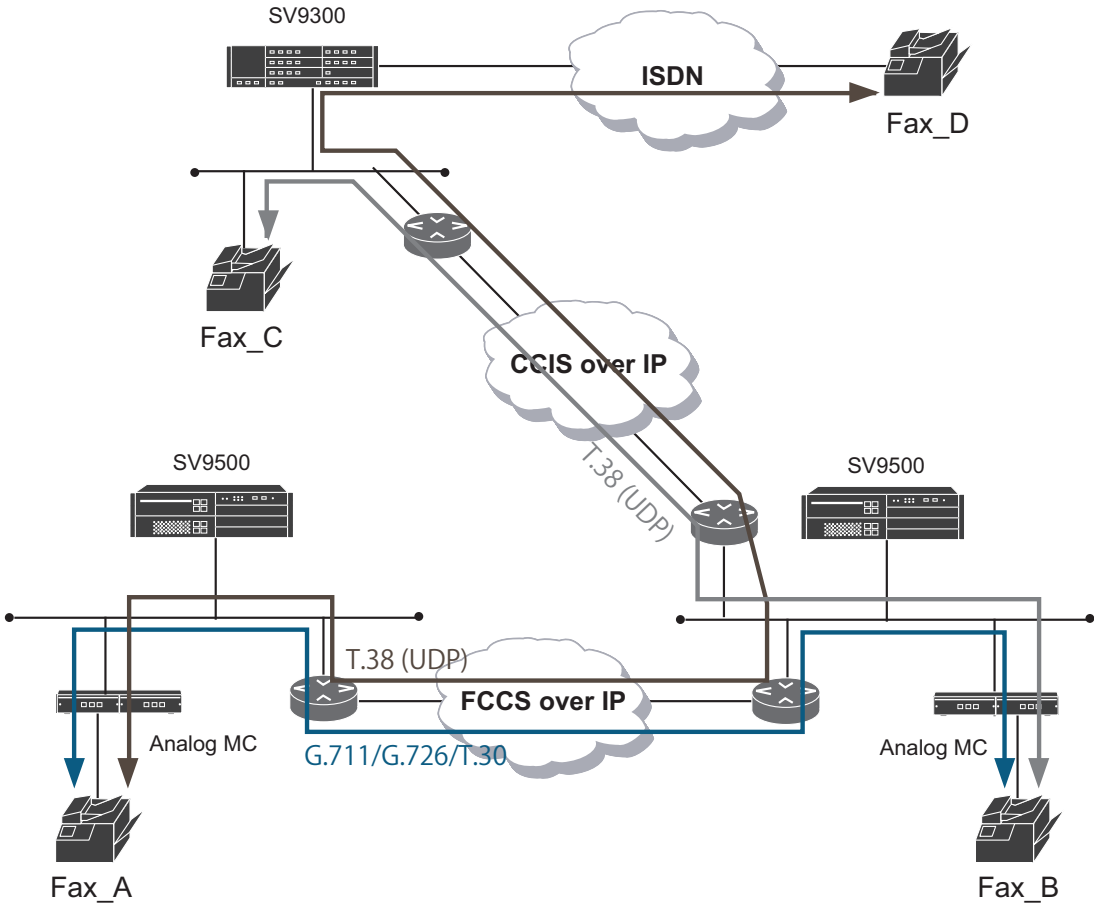
General

This manual describes available Fax communications on SV9500.

For details on available fax connection patterns and payload types, see [Available Fax Connection and Payload Type](#).

[T.38 (UDP) Fax communication via CCIS over IP]

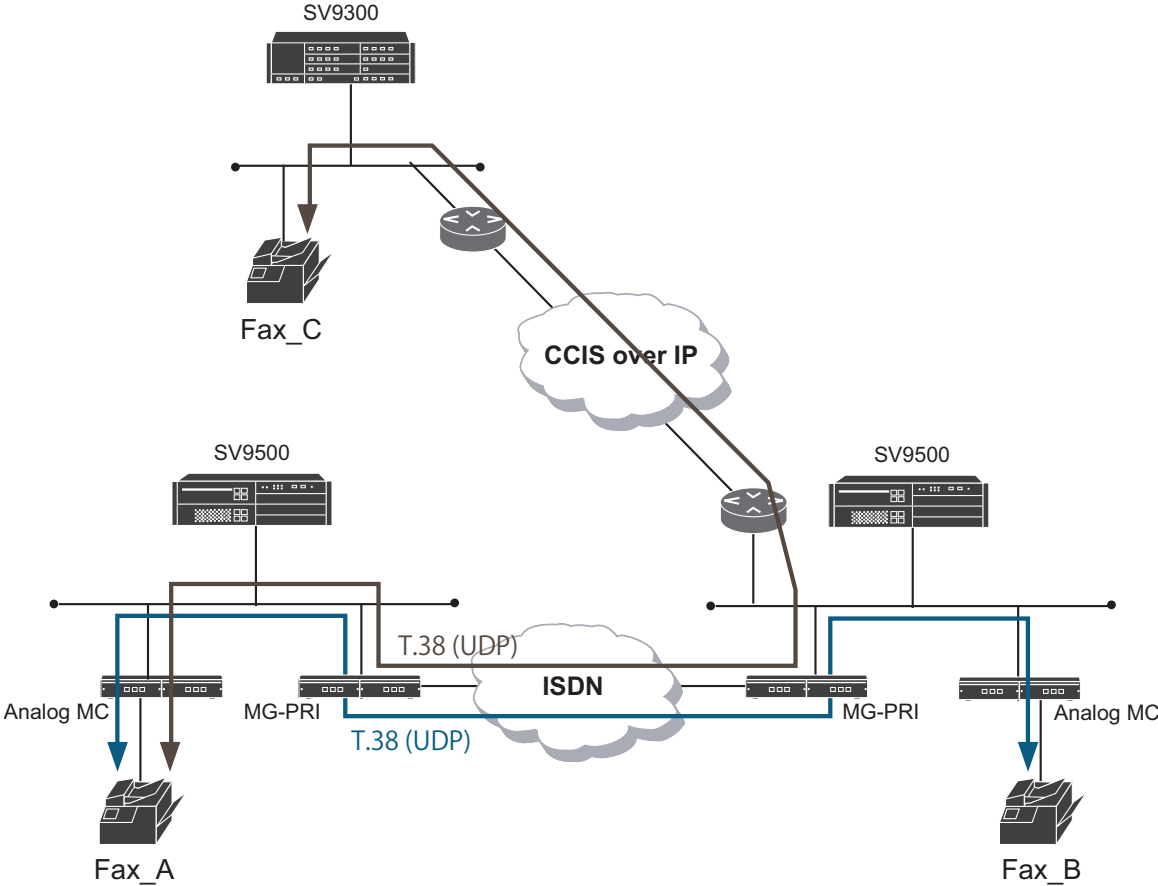
T.38 (UDP) fax communication is available via CCIS over IP (PHC) between faxes connected to Analog MC or SV9300.



[T.38 (UDP) Fax communication via MG-PRI]

T.38 (UDP) fax communications can be established via:

- ISDN between faxes connected to Analog MC, using MG (PRI) gateways under SV9500.
- ISDN and CCIS over IP (PHC) between faxes connected to Analog MC or SV9300, using MG(PRI) gateways in tandem connection.



Service Conditions

[T.38 (UDP) Fax communication via CCIS over IP]

Service conditions pertinent to T.38 (UDP) fax communication via CCIS over IP are as follow:

- (1) This feature is available for CCIS over IP (PHC) connections between faxes connected with Analog MC under SV9500 and faxes under SV9300.
- (2) This feature is available for Analog MC with the following firmware and firmware version:
 - 8LC Card [SCA-8LCC/SCA-8LCC-EMEA]: SP-3983 8MC PROG-B Issue 1A or later
 - UG50: No firmware condition
- (3) When this feature is enabled, IP devices other than Analog MC do not support fax communications via CCIS over IP (PHC) because they do not support T.38.
- (4) In this feature, ARTI/ARTIN command setting for routes of PHC virtual speech channels determines the fax payload type an Analog MC uses.
- (5) Conditions for T.38 in this service:
 - This feature supports only T.38 Version=0.
 - This feature supports up to 14.4kbps of Fax communication rate.
 - This feature does not support T38FaxFillBitRemoval.
 - This feature does not support T38FaxTranscodingMMR.
 - This feature does not support T38FaxTranscodingJBIG.
 - This feature supports only T.38 (UDPTL) + Redundancy mode (does not support FEC).
 - This feature supports only UDP as the protocol to send T.38 packets (does not support TCP and RTP).
 - You cannot start speech communication after Fax communication. If you want to have a conversation on phone after sending fax data, you have to place a new call after the Fax communication is released.
 - This feature does not support super G3 Fax and G4 Fax (other devices are supported).
- (6) Do not assign T.38 (UDP) fax payload with ARTI/ARTIN command other than routes of PHC virtual speech channels. Otherwise, fax communication is not guaranteed.
- (7) As for fax communication via CCIS over IP (PHC), the system does not refer to fax payload assigned with AISTL command.

[T.38 (UDP) Fax communication via MG-PRI]

Service conditions pertinent to T.38 (UDP) fax communication via MG-PRI are as follow:

- (1) This feature is available for fax communications between:
 - Terminals via ISDN using MG(PRI) gateways under SV9500
 - Terminals via ISDN and CCIS over IP using MG(PRI) gateways under SV9500 in tandem connection

Note: Analog MC is required for a terminal under SV9500 to communicate over IP.

- (2) This feature is available for MG(PRI) (1.5M) [SCA-24PRIA/MG-24PRIA], MG(PRI) (2M) [SCA-30PRIA/MG-30PRIA] and UG50 with the following firmware and firmware versions:

- MG(PRI): SP-3884 MG PRI PROG-A Issue 19A or later
- UG50: No firmware condition

- (3) When this feature is enabled, IP devices other than Analog MC and MG(PRI) do not support fax communication via CCIS over IP because they do not support T.38.

Note: For example, a device other than Analog MC and MG(PRI) under SV9500 cannot fax-communicate with a fax under SV9300 via CCIS over IP (PHC).

- (4) In this feature, the fax payload type an MG(PRI) uses is determined by the ARTI/ARTIN command setting for MG(PRI) speech or PHC virtual speech channel routes.

- (5) Conditions for T.38 in this service:

- This service supports only T.38 Version=0.
- This service supports up to 14.4kbps of fax communication rate.
- This service does not support T38FaxFillBitRemoval.
- This service does not support T38FaxTranscodingMMR.
- This service does not support T38FaxTranscodingJBIG.
- This service supports only T.38 (UDPTL) + Redundancy mode (does not support FEC).
- This service supports only UDP as the protocol to send T.38 packets (does not support TCP and RTP).
- You cannot start speech communication after fax communication. If you want to have a conversation on the phone after sending fax data, you have to place a new call after the fax communication is released.
- This feature does not support G4 fax (other devices are supported).

- (6) Do not assign T.38 (UDP) fax payload specified with the ARTI/ARTIN command to routes other than MG(PRI) speech or PHC virtual speech channel routes. Otherwise, fax communication is not guaranteed.

- (7) In this feature, the system does not refer to fax payload assigned with the AISTL command.

- (8) The PAD value for fax assigned by the APDIL command is not applied to calls via T.38 fax.

Programming

[T.38 (UDP) Fax communication via CCIS over IP]

- Data Assignment on Telephony Server

Step1: Data assignment for Internal PHC

Refer to C-163 CCIS Networking via IP in Data Programming Manual-CCIS.

Step2: ARTI/ARTIN - Assign CCIS speech routes.

CDN71: FXD=1 (Assign to enable FXPT data.)

CDN72: FXJS=0 (Sets Buffer size for Fax to 0.)

CDN73: FXPT=5 (Selects T.38 (UDP) for the payload type of Fax.)

CDN74: FXPS=0 (Sets payload size of Fax to 0 (default).)

- Data Assignment on Analog MC

Note: For data assignment of Analog MC accommodated in UG50, refer to Peripheral Equipment Description (UG50).

Step1: Assign the configuration data with `set t38parameter` command.

```
MC(SIP) > set t38parameter
```

```
T.38 Version is 0. (default : 0)
 0: Version 0
 1: Version 1
 2: Version 2 : 0
```

Assign T.38 version.

```
Error recovery type is 0. (default : 0)
 0: Redundant secondary IFP packets
 1: FEC (Forward Error Correction) single mode : 0
```

Assign UDPTL+Redundancy mode UDPTL error correction method.

```
Redundancy level for output Image Data is 0. (default : 0)
 0 : No Redundancy
 1-3: Redundancy level : 0
```

Assign UDPTL+Redundancy mode data redundancy number (high speed data re-transmit number).

```
Redundancy level for output T.30 control Data is 3.
(default:3)
 0 : No Redundancy
 1-7: Redundancy level : 3
```

Assign UDPTL+Redundancy mode T.30 redundancy number (low speed data re-transmit number).

```
T.38 Fax Max Rate is 5. (default : 5)
0: 2400bps
1: 4800bps
2: 7200bps
3: 9600bps
4: 12000bps
5: 14400bps :5
```

Assign maximum transfer rate (transfer rate).

Step2: Check the configuration data with `show t38parameter` command.

```
MC(SIP) > show t38parameter
```

```
T.38 Version is 0. (default : 0)
```

Current T.38 version

```
Error recovery type is 0. (default:0)
```

UDPTL+Redundancy mode UDPTL error correction method applied currently

```
Redundancy level for output Image Data is 0. (default:0)
```

UDPTL+Redundancy mode data redundancy number (high speed data re-transmit number) applied currently

```
Redundancy level for output T.30 control Data is 3. (default:3)
```

UDPTL+Redundancy mode T30 redundancy number (low speed data re-transmit number) applied currently

```
T.38 Fax Max Rate is 5. (default:5)
```

Maximum transfer rate (transfer rate) applied currently

[T.38 (UDP) Fax communication via MG-PRI]

- Data Assignment on Telephony Server

Step1: Data assignment for MG(PRI)

For data assignment of MG(PRI) accommodated in MG(PRI) (1.5M) [SCA-24 PRIA/MG-24 PRIA] and MG(PRI) (2M) [SCA-30 PRIA/MG-30 PRIA], refer to Peripheral Equipment Description (IP Devices).

For data assignment of MG(PRI) accommodated in UG50, refer to Peripheral Equipment Description (UG50).

Step2: ARTI/ARTIN - Assign the following trunk application data for MG(PRI) speech or PHC virtual speech channel routes.

CDN71: FXD=1 (Enables FXPT data.)

CDN72: FXJS=0 (Sets Buffer size for fax to 0.)

CDN73: FXPT=5 (Selects T.38 (UDP) for the payload type of fax.)

CDN74: FXPS=3 (Not available.)

- Data Assignment on MG(PRI)

Note: For data assignment of MG(PRI) accommodated in UG50, refer to Peripheral Equipment Description (UG50).

Note: When CH-IPDA (IPPAD) card is used in the system, do not change the default settings (ALL OFF) of SW6 and SW7 in the card.

Step1: Assign the configuration data with the `set t38parameter` command.

```
MG(PRI) > set t38parameter
```

```
T.38 Control is ARTI.
ENABLE: T38 Fax is Enable
DISABLE: T38 Fax is Disable
ARTI: T38 Fax depends on ARTI(default) :
```

Specify ARTI.

```
T.38 Version is 0.
0: Version 0 (default)
1: Version 1
2: Version 2 :
```

Assign T.38 version.

```
Error recovery type is 0.
0: Redundant secondary IFP packets (default)
1: FEC (Forward Error Correction) single mode :
```

Assign UDPTL+Redundancy mode UDPTL error correction method.

Note: Do not specify <1> (FEC) for [error recovery type]; FEC is not supported.

```
Redundancy level for output Image Data is 3.
```

```
0 : No Redundancy  
1-3: Redundancy level(default=3) :
```

```
Redundancy level for output T.30 control Data is 3.
```

```
0 : No Redundancy  
1-7: Redundancy level(default=3) :
```

```
T.38 Fax Max Rate is 5.
```

```
0: 2400bps  
1: 4800bps  
2: 7200bps  
3: 9600bps  
4: 12000bps  
5: 14400bps(default) :
```

```
CNG control is DISABLE.
```

```
ENABLE: CNG detect is Enable  
DISABLE: CNG detect is Disable(default) :
```

```
T.38 detect notice is DISABLE.
```

```
ENABLE: detect notice is Enable(default)  
DISABLE: detect notice is Disable :
```

Assign UDPTL+Redundancy mode data redundancy number (high speed data re-transmit number).

Assign UDPTL+Redundancy mode T.30 redundancy number (low speed data re-transmit number).

Assign maximum transfer rate (transfer rate).

Disable (default) CNG control on originating fax machine to send inbound CNG tone.

Disable T.38 detect notice.

Step2: Check the configuration data with the `show t38parameter` command.

```
MG(PRI) > show t38parameter
```

```
T.38 Control is ARTI.
```

Current T.38 control.

```
T.38 Version is 0.
```

Current T.38 version.

```
Error recovery type is Redundancy.
```

UDPTL+Redundancy mode UDPTL error correction method applied currently.

```
Redundancy level for output Image Data is 3.
```

UDPTL+Redundancy mode data redundancy number (high speed data re-transmit number) applied currently.

```
Redundancy level for output T.30 control Data is 3.
```

UDPTL+Redundancy mode T30 redundancy number (low speed data re-transmit number) applied currently.

```
T.38 Fax Max Rate is 5.
```

Maximum transfer rate (transfer rate) applied currently.

```
CNG control is DISABLE.
```

Current CNG control status.

```
T.38 detect notice is DISABLE.
```

Current status of T.38 detect notice.

Available Fax Connection and Payload Type

TO (Call termination)	8LC Card Note 1 Note 6	MG-SIP Note 3	MG-PRI (ISDN) Note 2 Note 7	MG-PRI (QSIG) Note 2 Note 7	MG-BRI, MC&MG COT ,MG-COT, IPPAD-A Note 4	IPPAD-B Note 5	CH-IPDA Note 4	CCIS Note 2							FCCS						
								8LC Card Note 1 Note 6	MG-SIP Note 3	MG-PRI (ISDN) Note 2 Note 7	MG-PRI (QSIG) Note 2 Note 7	MG-BRI, MC&MG COT ,MG-COT, IPPAD-A Note 4	Fax under SV9300/ in ISDN via SV9300	8LC Card Note 1	MG-SIP Note 3	MG-PRI (ISDN) Note 2 Note 7	MG-PRI (QSIG) Note 2 Note 7	MG-BRI, MC&MG COT ,MG-COT, IPPAD-A Note 4	IPPAD-B Note 5		
From (Call origination)																					
8LC Card Note 1 Note 6	G.711 G.726 T30	G.711	T.38 (UDP)	T.38 (UDP)	G.711 G.726 T30	G.711	G.711 G.728 T30	*	T.38 (UDP)	N	T.38 (UDP)	T.38 (UDP)	N	T.38 (UDP)	*	G.711 G.726 T30	G.711	T.38 (UDP)	T.38 (UDP)	G.711 G.726 T30	G.711
MG-SIP Note 3	G.711	G.711	N	N	G.711	G.711	G.711	N	N	N	N	N	N	N	N	G.711	G.711	N	N	G.711	G.711
MG-PRI (ISDN) Note 2 Note 7	T.38 (UDP)	N	T.38 (UDP)	T.38 (UDP)	N	N	T.38 (UDP)	*	T.38 (UDP)	N	T.38 (UDP)	T.38 (UDP)	N	T.38 (UDP)	*	T.38 (UDP)	N	T.38 (UDP)	T.38 (UDP)	N	N
MG-PRI (QSIG) Note 2 Note 7	T.38 (UDP)	N	T.38 (UDP)	T.38 (UDP)	N	N	T.38 (UDP)	*	T.38 (UDP)	N	T.38 (UDP)	T.38 (UDP)	N	T.38 (UDP)	*	T.38 (UDP)	N	T.38 (UDP)	T.38 (UDP)	N	N
MG-BRI, MC&MG COT, MG-COT, IPPAD-A Note 4	G.711 G.726 T30	G.711	N	N	G.711 G.726 T30	G.711	G.711 G.726 T30	N	N	N	N	N	N	N	N	G.711 G.726 T30	G.711	N	N	G.711 G.726 T30	G.711
IPPAD-B Note 5	G.711	G.711	N	N	G.711	G.711	G.711	N	N	N	N	N	N	N	N	G.711	G.711	N	N	G.711	G.711
CH-IPDA Note 4	G.711 G.728 T30	G.711	T.38 (UDP)	T.38 (UDP)	G.711 G.726 T30	G.711	G.711 G.726 T30	N	N	N	N	N	N	N	N	G.711 G.726 T30	G.711	N	N	G.711 G.726 T30	G.711
CCIS Note 2	*	N	*	*	N	N	N	N	N	N	N	N	N	N	*	*	N	N	N	N	N
8LC Card Note 1 Note 6	T.38 (UDP)	N	T.38 (UDP)	T.38 (UDP)	N	N	N	N	N	N	N	N	N	N	*	T.38 (UDP)	N	N	N	N	N
MG-SIP Note 3	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
MG-PRI (ISDN) Note 2 Note 7	T.38 (UDP)	N	T.38 (UDP)	T.38 (UDP)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
MG-PRI (QSIG) Note 2 Note 7	T.38 (UDP)	N	T.38 (UDP)	T.38 (UDP)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
MG-BRI, MC&MG COT, MG-COT, IPPAD Note 4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

TO (Call termination)	8LC Card Note 1 Note 6	MG-SIP Note 3	MG-PRI (ISDN) Note 2 Note 7	MG-PRI (QSIG) Note 2 Note 7	MG-BRI, MC&MG COT ,MG-COT, IPPAD-A Note 4	IPPAD-B Note 5	CH-IPDA Note 4	CCIS Note 2							FCCS						
								8LC Card Note 1 Note 6	MG-SIP Note 3	MG-PRI (ISDN) Note 2 Note 7	MG-PRI (QSIG) Note 2 Note 7	MG-BRI, MC&MG COT ,MG-COT, IPPAD-A Note 4	Fax under SV9300/ in ISDN via SV9300	8LC Card Note 1	MG-SIP Note 3	MG-PRI (ISDN) Note 2 Note 7	MG-PRI (QSIG) Note 2 Note 7	MG-BRI, MC&MG COT ,MG-COT, IPPAD-A Note 4	IPPAD-B Note 5		
Fax under SV9300/in ISDN via SV9300	T.38 (UDP)	N	T.38 (UDP)	T.38 (UDP)	N	N	N	N	N	N	N	N	N	Note 8	*	T.38 (UDP)	N	N	N	N	N
FCCS	*	N	*	*	N	N	N	*	*	N	N	N	N	*	N	N	N	N	N	N	N
8LC Card Note 1 Note 6	G.711 G.726 T30	G.711	T.38 (UDP)	T.38 (UDP)	G.711 G.726 T30	G.711	G.711 G.726 T30	*	T.38 (UDP)	N	N	N	N	T.38 (UDP)	N	G.711 G.726 T30	G.711	N	N	G.711 G.726 T30	G.711
MG-SIP Note 3	G.711	G.711	N	N	G.711	G.711	G.711	N	N	N	N	N	N	N	N	G.711	G.711	N	N	G.711	G.711
MG-PRI (ISDN) Note 2 Note 7	T.38 (UDP)	N	T.38 (UDP)	T.38 (UDP)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
MG-PRI (QSIG) Note 2 Note 7	T.38 (UDP)	N	T.38 (UDP)	T.38 (UDP)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
MG-BRI, MC&MG COT, MG-COT, IPPAD-A Note 4	G.711 G.726 T30	G.711	N	N	G.711 G.726 T30	G.711	G.711 G.726 T30	N	N	N	N	N	N	N	N	G.711 G.726 T30	G.711	N	N	G.711 G.726 T30	G.711
IPPAD-B Note 5	G.711	G.711	N	N	G.711	G.711	G.711	N	N	N	N	N	N	N	N	G.711	G.711	N	N	G.711	G.711

N: Not available, *: Depends on the terminal

Note 1: For 8LC Card, specify Payload Type G.711, G.726, or T.30 in the parameter PAYTYP of the AISTL command.

Note 2: Specify “5: T.38 (UDP)” in the parameter FXTP (CDN: 73) of the ARTI command for the target route.

Note 3: Specify “1: G.711” in the parameter FXTP (CDN: 73) of the ARTI command for the target route.

Note 4: For MG and Trunk, specify Payload Type G.711, G.726 or T.30 in the parameter FXTP (CDN: 73) of the ARTI command.
For MC, specify Payload Type G.711, G.726, or T.30 in the parameter PAYTYP of the AISTL command.
For IPPAD, specify Payload Type G.711, G.726 or T.30 by ASYDL, SYS1, Index 652.

Note 5: For IPPAD, specify “G.711” by ASYDL, SYS1, Index 652.
For MG and Trunk, specify “G.711” in the parameter FXTP (CDN: 73) of the ARTI command.
For MC, specify “G.711” in the parameter PAYTYP of the AISTL command.

Note 6: 8LC: SP-3983 8MC PROG-B Issue 1.0 or later for using T.38.

Note 7: MG-PRI: SP-3884 MG PRI PROG-A Issue 19.0 or later is required for using T.38.

Note 8: Condition of SV9300.

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Data Programming Manual - T.38 Fax Communication

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Revision Sheet

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5, 7, 9, 10