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[Title] Addition of CC-Link System Remote I/O Net Mode   **[Date of Issue]** Nov. '98
[Relevant Models] AJ61BT11, AJ61QBT11, A1SJ61BT11, A1SJ61QBT11

Thank you for your continued patronage of the Mitsubishi general-purpose PLC MELSEC-A/QnA.
Remote I/O net mode has been added to the CC-Link system. The details are as follows.

Whereas

[Details]

1. Addition of CC-Link remote I/O net mode

    (1) Features

    When the system is composed of a master station and remote I/O stations only, using the remote I/O net mode has the following merits.
    The network parameters do not need to be set.
    By shortening the link scan time, the input/output response is faster than in the remote net mode (conventional mode).

    (2) Software versions compatible with master unit and applicable CPU

Master unit, CPU type	Compatible software version
AJ61BT11, AJ61QBT11, A1SJ61BT11, A1SJ61QBT11	P (Manufactured in Sept. 1998) and after
A2UCPU (S1), A3UCPU, A4UCPU	K (Manufactured in Aug. 1998) and after
A2ASCPU (S1)	A (Manufactured in Aug. 1998) and after
A1SHCPU, A2SHCPU, A1SJHCPU	L (Manufactured in Sept. 1998) and after
A1SJHCPU-S8	C (Manufactured in Oct. 1998) and after
Q2ACPU (S1), Q3ACPU, Q4ACPU	L (Manufactured in Sept. 1998) and after
Q2ASCPU (S1), Q2ASHCPU (S1)	T (Manufactured in Sept. 1998) and after

    (3) Setting items

    The following three items are set.
    • The master station's mode setting switch is set to 1 (remote I/O net mode).
    • The master station's station NO. setting switch is set to the last remote I/O station NO.
    • The automatic refresh parameters are set.
    (With the A Series, these are set with the RRPA command, and with the QnA Series, these are set using the software package.)

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(4) Link scan time

The link scan time (LS) when using the remote I/O net mode is calculated with the following expression.

$$LS = BT \{25.0 + (NI \times 4.0) + (N \times 28.0) + (ni \times 4.0)\} + ST$$
$$+ \{\text{No. of communication error stations} \times 48 \times BT \times \text{No. of retries}\} * \quad [\mu s]$$

BT : Constant (baud rate)

Baud rate	156kbps	625kbps	2.5Mbps	5Mbps	10Mbps
BT	51.2	12.8	3.2	1.6	0.8

N1 : Last station No. (Note that this must be a multiple of 8)
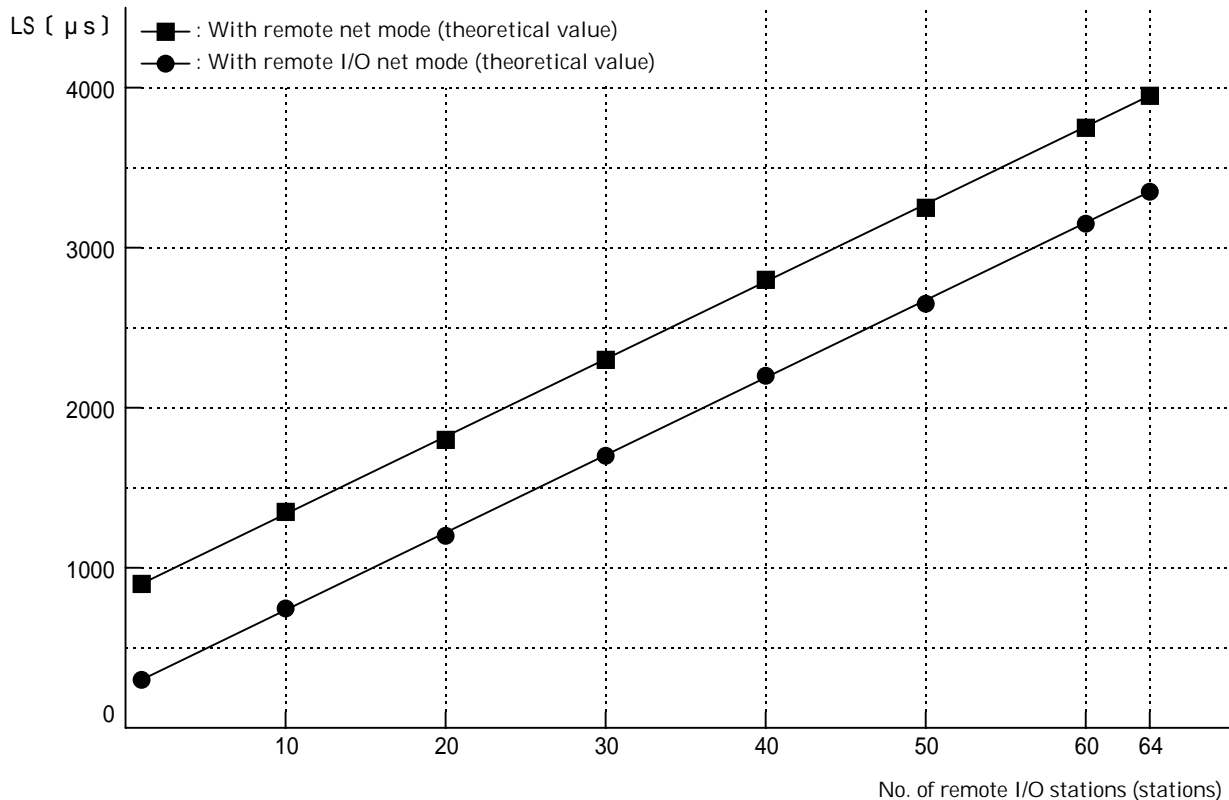N : No. of connected units
ni : Total No. of occupied stations
ST : Constant
     $ST = 200 + (ni \times 20)$
* : Only when there is a communication error station.

The difference in the link scan time between remote I/O net mode and remote net mode (conventional mode) is shown below.

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(5)   Precautions

The remote I/O station numbers must be set in sequential number order.
If they are not set in sequential number order, an error will be detected for the station that was skipped and the link scan time will be affected.