



Application Notes

Rev 03

AN08-Frequently Asked Questions for Systems using Version 5 IPCs and FarmID

Do I need a FarmID?

If you purchase an IPC that is installed with version 5 (V5) IPC firmware or you upgrade a version 3 (V3) IPC to version 5 then YES you must configure the unit with a FarmID. This applies also for sites that will run a mixture of V3 and V5 firmware such as sites that are in a transitional state from V3 to V5.

How Do I get a FarmID?

You need to apply to Water-Insight. You can do this via your agent or directly. In either case you must complete a form which your agent or Water-Insight can provide. This captures some details that we need to ensure that we allocate radio channel assignments and ensure that we manage communications effectively on the farm.

Water-Insight will issue the FarmID, which can then be used in the generation of a IPC configuration file (aka podlist)

IPCs will not communicate to each other or with an EP3 or INC unless the FarmID is correctly set and we wish to avoid multiple unnecessary FarmIDs on a site so we maintain a register.

If you need the form email us, it is opened using Microsoft Excel but if you don't have Excel we can arrange to provide it in form that you can fill in.

Can I use my existing EP3?

YES, but before you do anything else, if you have a V5 IPC on your site, then you must upgrade the firmware in your EP3 (and INC if you have one) to V5.

Can I use my exiting IPC configuration file (podlist)?

It needs to be amended. Your podlist has an entry for each IPC in your system. For IPCs on V3 then its entry remains the same. As you add V5 units to your system an additional line is required for each entry, which specifies the FarmID for a V5 unit. Your scheduling software can do this automatically but if you manually edit your podlist then you have to add the line entry for the specific IPC (e.g. FarmID=1A:36). Consult your Agent or Water-Insight if in doubt.

V5 units in the podlist MUST have a FarmID

V3 units in the podlist MUST NOT have a FarmID

How do I configure my V5 IPC?

Mostly the same way as you do with a V3 unit with some notable exceptions:

1. Obtain a FarmID
2. Create a new podlist and schedules using the scheduling software
3. Load the new podlist and schedules into a (V5) EP3

4. Set the time on your EP3
5. **In settings tick the comms option to use the broadcast header (this allows communications to IPCs that have not yet had their farmID programmed.)**
6. Select the V5 IPC serial number to configure and choose comms
7. **Using local comms send the FarmID to programme the unit with the FarmID in the podlist**
8. Send the timeset
9. Send the Schedule
10. Proceed to next IPC

Note. **You will not be able to schedule a V5 IPC without a FarmID being programmed first and foremost**

Note. the “use broadcast header” feature is not required once you have programmed the FarmID in a unit

Note. The “use broadcast header” feature, if needed, must be set each time you turn on the EP3 before attempting communications to an unprogrammed IPC.

Note. If you also need to change the radio channel this must be done first. Consult the EP3 User Guide, your installer or Water-Insight

Why do I get schedule issues?

V3 and V5 systems use a slightly different way of managing the time and the calculation of a signature for each schedule. V5 systems automatically determine the day of a scheduling cycle whereas this had to be set manually in a V3 EP3. Also the number of days in the cycle is embedded in the schedule file.

Sometimes an EP3 will say the schedule is wrong when in fact the schedule in the IPC has not changed or is known to be good. To avoid this inconsistency, make sure you use a V5 EP3 to send the time and the schedule to each IPC even on a mixed (V3+V5) site. If in doubt schedule your site with a V5 EP3.

I'm on a mixed site and my V5 units are not receiving the broadcast timeset, why?

V5 introduced a new method of ensuring adjacent farms on the same radio channel could not interfere, by using FarmID. To maintain some compatibility with V3 and V5 sites when mixed the EP3 looks at the first entry in the podlist. If that entry does not have a farmID then the broadcast timeset will be sent in the old format, thus ensuring all the V3 units get the time as before. But V5 units won't accept the old format.

To get around this the broadcast timeset feature on a V5 EP3 allows you to broadcast the time in the old format but by checking the “Use FarmID” option the timeset broadcast will be sent using the new format (enabling V5 IPCs to receive it).

Warning. V3 units will not receive a timeset if “Use FarmID” is set. V3 units will not receive a timeset if “Use Broadcast header” is set.

Why do I keep getting large Clock errors?

On V3 systems, if adjacent farms use the same radio channel or are with 3 km of each other, there is the potential for a timeset to propagate from one site to the other. If one site is on daylight savings, for example and the other is on standard time this can result in abnormal operations as some IPCs will run at unexpected times (or an hour later say).

To resolve this FarmID was introduced but large clock errors can still occur for the following reasons:

1. The site also uses an INC and the EP3 time was not synchronised to the INC time before adjusting times on IPCs with an EP3. Always remember to set the time on the EP3 to the same as the INC before doing field work.
2. The IPC has another issue such as very low battery or poor location and is not receiving timesets.
3. The clock on the IPC can drift over time with temperature and if it doesn't receive a timeset it can drift by more than a minute and eventually become a problem. Regular timeset distribution is recommended (at least once per month).

What is “Use Broadcast Header” setting used for?

The broadcast header function is a communications setting which is applied when attempting to communicate with an IPC where the FarmID in the unit has yet to be programmed or is otherwise unknown. When this setting is applied it has an effect on communications to units on a mixed site. In the table below YES means communications will occur.

EP3 - Broadcast header not enabled	IPC V3	IPC V5
no Farmid in config	YES	NO
Farmid in config which matches the IPC	NO	YES
Farmid in config which is different from the IPC	NO	NO
EP3 - Broadcast header enabled		
no Farmid in config	NO	YES
Farmid in config which matches the IPC	NO	YES
Farmid in config which is different from the IPC	NO	YES