ORDERING DID OVER ANALOG SERVICE

TECHNICAL WHITEPAPER

IMPORTANT NOTE: This document concerns *analog* DID service. For information on digital DID service, commonly referred to as “DNIS”, please consult with your T1 service provider.

For DID Service, you must obtain from the telephone company:

- One DID telephone trunk for each TR114 DID interface you plan to use.
- A block of DID telephone numbers associated with the trunk(s).

When ordering DID telephone service, and *before* you connect DID channels to DID telephone lines, you must provide the telephone company with:

- **A source of -48Vdc power.**
  The power supply must be installed and running on the TR114 before the telephone company can activate a DID line. Once the DID line is activated, -48Vdc power must be continuous, or the telephone company may disconnect the DID service. You, as the end user, need to supply the voltage on the DID line, through a power supply that connects to your Brooktrout board; your phone company should ***never*** put any voltage on the line from their end.

- **A specification of the DID service options you want.**
  Before you order DID service from your telephone company, find out what DID service options are available in your area and decide which options you want. These service options define how your DID service will operate and include:

Trunk Type: Two-wire tip-and-ring loop start trunk which works off battery reversal
Service Type: Wink vs. immediate (recommend wink)
Digit Length: The number of routing digits (usually three or four)
Signaling Type: DTMF vs. Pulse (recommend DTMF)

Trunk Type
As stated in the chart above, the phone company needs to give you a two-wire loop start trunk that works off battery reversal, meaning that the end user puts the “battery”, or the voltage, on the trunk, never the phone company.

Service Type
The TR114 fax board supports both wink-start and immediate-start service. Brooktrout recommends wink-start because it is faster and less prone to errors than immediate-start service. The following table describes the difference between wink-start and immediate-start service.

Service Type: Wink-Start
Interdigit Delay Time: The TR114 expects to see the first DID digit within 5 seconds after the telephone is activated. Each successive digit must arrive within 5 seconds of the previous one. (The “wink” is a voltage reversal, lasting approximately 200ms, which the board sends to the Telco side after that side has “seized” the line in preparation to send a call to the board; the “wink” tells the Telco provider that it’s OK to send the DID digits down the line.)

Service Type: Immediate-Start
Interdigit Delay Time: The TR114 expects to receive the first DID digit within 18 seconds after the telephone is activated. The maximum interdigit delay is 18 seconds. This service type may be easier to use for hand-dialed testing.

Your phone service provider must communicate whether the service is wink or immediate, in order for you to set your fax software appropriately. It will be your software which will tell your Brooktrout DID board what the service type is, so the board can function appropriately with the DID trunk.

Digit Length
DID service usually sends the last few digits of the dialed telephone number to the TR114 as a routing address. Your Telco service provider needs to tell you how many DID digits they're sending down the line (typically it's the last 3 or 4 digits of the phone number, but not necessarily) so you may set up your fax software appropriately; it's your fax software that tells the Brooktrout board how many digits to expect after it sees a call coming down the line.

Signaling Type
Pulse tones are those generated by rotary-dial telephones. A series of pulses, simulating alternate on-hook/off-hook conditions, represents each dialed digit. ***Important:*** If your telephone service provider sends pulse tones down the DID trunk to the board, they should do so at a rate of 10 pulses-per-second (commonly written "10pps").

DTMF tones are those generated by touch-tone telephones. A different combination of two tones, one high-frequency and one low-frequency, represents each of the twelve possible digits and characters on the touch-tone telephone keypad.

When the TR114 receives a call it can automatically detect either DTMF or pulse. When it dials out, your software application tells the board which of the two signaling types it will use.

*** We strongly recommend DTMF over pulse, as DTMF is much less prone to errors and it's much quicker; also, some fax software applications may not handle pulse digits correctly.**

Other Information
Additionally, the telephone company may request other specific information on the TR114 card (the TR114's FCC Registration number, the service order code, the type of wall jack, and the facility interface code). This information is located on the bottom of the TR114 card, and is also given in the TR114 manual.

The FCC Registration number EAGUSA-74279-FA-E

The Service order code: 9.0F

The type of wall jack required: USOC-RJ-61X

The facility interface code: 02RV2-T

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